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# USSR Report

ECONOMIC AFFAIRS

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## RIGOROUS RESOURCE CONSERVATION STANDARDS REQUIRED

Moscow PLANOVoye KHOZYAYSTVO in Russian No 8, Aug 79 pp 72-81

[Article by G. Pokarayev and A. Zaytsev: "Questions Connected with the Improvement of Material Resource Norms"]

[Text] Socialism gives rise to objective opportunities for efficient economic management, the conservation of social labor and planned economic development. The utilization of these opportunities, however, depends completely on the organization of purposeful activity and the prevention of losses and waste. During the current stage in the development of our economy, now that the intensive method of management is beginning to prevail and, consequently, further production growth will depend mainly on a rise in labor productivity levels, economy and thrift are acquiring increasing significance.

One of the major aspects of production intensification is the efficient use and conservation of material resources. The fact is that material expenditures represent more than 70 percent of total production costs in industry as a whole, and up to 90 percent in some branches, and their reduction per unit of output therefore has a greater impact, all other conditions being equal, than the reduction of other types of expenditures. Besides this, a savings in material expenditures has a positive effect on expenditures of live labor and capital, resulting in the relative reduction of both. Finally, fixed assets, representing our tremendous and constantly increasing production potential, require huge quantities of material resources for their functioning, and the expanded production of these resources is becoming difficult on the basis of extensive economic management due to the natural limits on raw materials and the rising relative cost of their extraction and primary processing.

If socialist production relations constitute the basis for the economical use of material resources, technological progress serves as an instrument in the attainment of this objective. The development of new machines, equipment, materials and technology reduces total expenditures of labor per unit of output and considerably modifies the correlation between live and embodied labor in favor of the latter.



The more efficient use of material resources is indissolubly connected with the better performance of an important function of socialist production management--the setting of crude resource, material, fuel and energy expenditure norms. The norming of material resources plays a dual role. On the one hand, it establishes the necessary conditions for the efficient calculation of material resources used in production and aids in the objective determination of quantities of material resources allocated for production use. On the other hand, norming essentially represents an instrument, by means of which the achievements of technological progress are reflected in the more efficient use of material resources and the reduction of material expenditures in production.

Therefore, norms governing the expenditure of material resources, serving as an indicator of socially necessary production outlays, determine the possibility of a product output of a particular volume or assortment and establish the necessary conditions for guaranteed sectorial and national economic balance. Scientifically substantiated progressive expenditure norms constitute the foundation of balance in our plans, and the observance of the norms constitutes one of the guarantees of their fulfillment.

The fundamental basis of norming consists in the establishment of material resource expenditure norms for the plan period that have been worked out with a view to plans for the incorporation of new equipment and new technological processes and the use of more economical types of crude resources and materials and with a view to assignments concerning the conservation of material resources, reflecting these measures and stipulated in the plan in the form of average reductions in expenditure norms. The norming of material resource expenditures should be regarded as purposeful and systematic activity on the part of certain links of the production and administration system, connected with analysis of the fulfillment, establishment, approval and announcement of plan indicators for the expenditure and conservation of material resources in production and construction.

During the years of the 10th Five-Year Plan, in accordance with 25th CPSU Congress instructions concerning the need to continue improving the existing system of norms, USSR Gosplan, working in conjunction with ministries, has done much to develop some elements of this system, working toward the disclosure of the potential and reserves of national economic branches and industry in the area of the more efficient use of material resources. For example, in machine building and metal processing, the group of metal products for which conservation assignments are set and expenditure norms are revised has grown from 8 types in 1975 to 22 in 1979. According to preliminary estimates, this has increased the proportion accounted for by materials which are expended by machine-building ministries in production and for which assignments are set and expenditure norms are assessed on the level of USSR Gosplan to 60-65 percent of all material expenditures (in cost terms).

It has become standard procedure to provide USSR Gosplan with data on material input and the use coefficients of materials for specific types of machine-building products and for the ministry and department as a whole; this has

made the more thorough analysis of the progressive nature of expenditure norms possible. On the basis of the instructions of USSR Gosplan, proportional expenditures of different types of metal per technical parameter unit of manufactured machines and equipment are being analyzed in ministries and departments.

Steps have been taken to improve the norming of fuel and energy resource expenditures. Beginning with the plan for 1979, the group of planned norms for the expenditure of boiler and furnace fuel and electrical energy has grown. In industrial branches, thermotechnical balance tests are being conducted and the normative characteristics of fuel-operated units are being determined. This should become the basis for the technically substantiated norming of fuel expenditures in the national economy.

The expenditure norms for gasoline and diesel fuel, which were approved by USSR Gosplan for different types of vehicle models and went into effect in 1976, have resulted in an annual savings of around 2 million tons of liquid fuel. The revision of motor transport oil expenditure norms is in its final stages.

The quantity of gasoline and diesel fuel allocated for production and operational needs in accordance with norms set by USSR Gosplan has already reached 65 percent. The present objective is to set scientifically substantiated norms on all levels of planning for 80-85 percent of all the light petroleum products used for these purposes. Within the first 3 years of this five-year plan, new fuel expenditure norms were instituted for different types of aircraft; a normative base for calculating fuel expenditure norms for tractor operations in agriculture and for the work of the fishing fleet has been developed and is now being tested; several other steps have been taken to improve the norming of petroleum product expenditures.

The quantity of normative information submitted to USSR Gosplan on material resource expenditures is almost twice as great as the quantity submitted during the Ninth Five-Year Plan. For the more efficient processing and comprehensive analysis of this information and indicators of the utilization level of material resources, the main computer center of USSR Gosplan is experimenting with the use of computers. This, in turn, will establish a computer basis for the projected automated system of plan computation (ASPR).

In construction, along with the completion of assignments for the conservation of ferrous rolled metals, cement and lumber, which were set for the first time in the 10th Five-Year Plan, the objective expenditure norms of these resources are being revised for production, residential and municipal construction. In 1977 and 1978, new norms were set for 40 branches of industry and the national economy, covering around 80 percent of the annual volume of construction and installation work. The resulting savings in 1978 amounted to 214,000 tons of rolled ferrous metals, 300,000 tons of cement and 1 million cubic meters of lumber.

Therefore, significant positive results have been achieved in the system of material resource norms. At the same time, the efficient control of expenditure norms has not been fully guaranteed; in several production areas, the use coefficients of materials have been low for a long time; there have been cases involving the overstatement of expenditure norms; opportunities for reduced expenditures of material resources as a result of improvements in the design of machines, equipment and production technology are inadequately disclosed and reflected in norms. The main reason for this is the insufficient concern of ministries, departments, enterprises and organizations for the strict observance of the requirements of the system of technical and economic normatives approved by USSR Gosplan. In order to eradicate the negative aspects of the norming of material resource expenditures, various elements of this system must continue to be perfected, particularly the more comprehensive and thorough analysis of expenditure norms.

When norms are being analyzed in USSR Gosplan or ministries, their standardizing elements should be examined, as well as, consequently, the technical and technological factors affecting the elaboration of normative indicators. Therefore, an analysis of expenditure norms would be unthinkable without an analysis of the technical decisions made at the time when items or technologies were developed. The analysis of norms should result in proposals and measures aimed at the improvement of product quality and the reduction of day-to-day production expenditures, including material outlays.

Experience in the analysis of expenditure norms in ministries and sectorial institutes has shown, however, that the organization of this work is far from satisfactory. The analysis of norms is generally confined to normative subdivisions of technological institutes although the achievement of the desired impact demands that the technological design offices of these institutes and, in particular, enterprises participate in this analysis. This should reveal existing reserves for material resource conservation and provide for their utilization.

The technical substantiation of expenditure norms depends largely on the level of normatives used in the calculation of technological waste and losses of material resources. At many enterprises, these normatives have not been revised for a long time and do not correspond to existing technology. Sectorial procedures for the calculation of normatives have already become obsolete and require clarification and correction. The operational plans of sectorial institutes should include projects connected with the clarification and elaboration of normatives governing the waste and loss of materials with a view to the properties of progressive technology and equipment.

An analysis of the material resource conservation plans drawn up by enterprises and the results of their fulfillment indicates that these planned measures are not always carried out. For this reason, data on the reduction of expenditure norms as a result of reduction in net product volume and production waste do not correspond to the indicators of planned conservation measures. It is obvious that the compilation and implementation of these plans should be accompanied by the provision of the necessary facilities



for carrying out all planned measures for the conservation of material resources. This makes it possible to judge the possibility of the planned savings more soundly and to take the necessary steps on all levels of planning for the completion of planned measures.

We know that material resource expenditures are determined primarily during the stage when items are designed and technological processes are developed. The requirements of the unified system of design documentation (YeSKD), however, do not stipulate that mandatory technical specifications include indicators of the structural mass of items or indicators of the use coefficient of materials in the production of these items, as is the case with indicators of reliability and standardization.

The basic requirements of the YeSKD should be brought in line with the principles governing the establishment of the normative base for material resource expenditures by including, as part of state standards for the development of machines and equipment, indicators of the efficiency with which material resources are utilized, so that these can be used as a guide in the preparation of technical assignments concerning the development of new products and the modernization of existing ones. Considerable reserves for the conservation of materials also exist in the construction industry; they can be revealed without large expenditures, particularly by improving the quality of planning and estimate documents.

As we know, technical policy, which has a considerable effect on construction's demand for metal products, is conducted through normative documents: construction norms and regulations, technological project planning norms and technical rules governing the economical use of basic construction materials. These documents, however, do not include quantitative indicators of expenditures of metal and other materials for the regulation of their use in construction.

It would therefore seem expedient for USSR Gosstroy, with the aid of ministries and departments of the USSR and the approval of USSR Gosplan, to determine and set limits (normative) for the maximum use of basic materials in different areas and types of construction work (per unit of technical characteristic of the construction project and per 1 million rubles of estimated cost of construction and installation work). Then the ministries and departments ordering the completion of projects on the basis of these normatives would specify the corresponding limits on expenditures of, for example, metal products and would include them in the assignments for specific construction projects.

The effective supervision of material expenditures demands, in our opinion, that USSR Gosstroy clarify its instructions on the compilation of plans and estimates for different types of construction by including information on basic material expenditures in planning and estimate documents. The absence of this information now makes it impossible to control actual indicators of the expenditures of materials specified in plans and to improve the planning of the distribution of materials in capital construction.

The institution of these organizational measures should contribute to the purposeful improvement of the quality of project planning and guarantee a sizeable savings in materials.

The necessary conditions must be established for the comprehensive analysis of material expenditures per unit of output and types of work by expanding the group of normed materials. In connection with this, we feel that it would be expedient to continue the gradual expansion of the group of resources for which average expenditure reduction assignments are centrally set by USSR Gosplan. At the same time, a broad field of activity in the planning of expenditure norms and their reduction in production now lies before USSR Gosplan, ministries and departments of the USSR and the union republics, associations and enterprises. For organizational and technical reasons, however, it is impossible to centrally plan assignments for the conservation of all types of material resources, particularly in terms of categories, classes and grades. For this reason, it would be useful to determine the appropriate group of material resources for which conservation assignments could be consistently planned on all levels, with expenditure norms and average reduction levels taken into account in the plans for the distribution of material resources.

Attention must also be given to the question of establishing indicators of the maximum expenditure levels of major types of material resources per unit of technical parameter in identical products and types of work for periods of 5 years or more, so that these might be used as a basis by designers, technologists and administrators of production units in scientific research and technological design institutes in the development of new products, and so that their sequential achievement could be controlled through expenditure norms. In our opinion, these indicators could either be estimated, but compulsory, or stipulated in five-year plans and plans for the longer range.

It is also extremely important to overcome the psychological barrier in the mentality of some administrators and planning agency personnel who regard expenditure norms and reduction assignments as quantities derived from the existence of material resources rather than from the achievements of technological progress. It will also be necessary to resolutely put an end to the frequently encountered practice of the arbitrary or departmental interpretation of basic norming principles. Expenditure norms and conservation assignments should be worked out at the same time as the plan for production, science and technology, capital construction and other sections of plans for the development of enterprises, associations and branches. Projected improvements in equipment, technology and the organization of production must be taken into account in normative indicators.

The basic rules must be worked out in regard to the organization and functions of offices responsible for the norming and conservation of material resources in ministries, departments, associations and enterprises, reflecting the interaction of the entire production system, which, when measures are taken, will promote the more efficient use of material resources.

Standard basic rules could be prepared by USSR Gosplan's Scientific Research Institute of Planning and Normatives with the aid of ministerial branch institutes. In connection with this, work connected with the methodology of norming material and other resources must be launched on a broader scale in the Scientific Research Institute of Planning and Normatives.

Certain proposals of a procedural and organizational type should be considered in greater detail because they, according to their authors, would eliminate the defects of the existing system of material normatives and the related negative aspects of the expenditure and utilization of crude resources, materials, fuel and energy. For example, one proposal calls for the planning of an indicator of materials-intensiveness (or its reduction), which implies proportional expenditures of material resources (in cost terms) per ruble of commercial (or gross) product value. This proposal is usually substantiated by the statement that the assignments currently set centrally for the average reduction in expenditure norms apply only to a limited group of material resources and, for this reason, a considerable percentage of material expenditures in the production sphere has allegedly remained outside the sphere of planning for their distribution and control over their utilization.

Is this actually true? Today assignments pertaining to the average reduction of expenditure norms are centrally established in the major branches of industry for such resources as finished ferrous rolled metal products, the most commonly used types of pipe and nonferrous metals (copper, brass, aluminum, bronze, zinc, lead and nickel), steel ingots, the major chemicals (sulfur, sulfuric acid, soda, sodium sulfate, ammonia, rubber, plastics, synthetic resins and others) and lumber. Assignments for the conservation of the basic construction materials (ferrous rolled metal products, cement and wood) are set as well in the construction industry. Finally, plans for the conservation and norms for the expenditure of fuel, energy and petroleum products are approved centrally. Therefore, expenditures of almost all the basic types of materials determining the physical content of production, as well as expenditures of fuel and energy in the production process, are calculated and controlled in accordance with the procedures and rules of the system of norms and normatives. Naturally, this constitutes a prerequisite for the efficient and economical expenditure of other types of resources as well, which are also used in production and construction, although not in as great quantities as the abovementioned.

In other words, if expenditures, for example, of basic materials and energy in production are specially controlled and recorded, there is reason to believe that expenditures of all other material resources are also limited in this way. This is corroborated by the fact that the system of material normatives does not, in principle, envisage limits on the application of its indicators or the procedure of their calculation. This means that expenditures of all types of material resources in production and construction, regardless of whether the assignment for the average reduction in expenditure norms for the basic resources of this type is set centrally or not, are

calculated in line with the norms governing the expenditure of specific types of material resources per unit of output (or type of work), and these norms are the result of computations based on the technical parameters of the product or work and the technology employed.

At the same time, we naturally cannot deny the advantages that could result from expansion of the assortment of crude resources and materials for which conservation assignments would be set. This, as we have already pointed out, represents a sizeable field of activity for ministries, enterprises and, in particular, USSR Gosplan, which plans the distribution of numerous types of resources and materials. There is good reason, however, to reaffirm the fact that the economical and efficient use of the major material resources included in the national economic plan, distinguished mainly by the fulfillment and overfulfillment of assignments concerning the average reduction of their expenditure norms, constitutes one of the main prerequisites for balance in our plans and makes their successful fulfillment possible.

At first glance, it would seem that the planning of materials-intensiveness would be a radical solution to the problem of the resource shortage because this indicator represents all day-to-day material expenditures and, for this reason, its planning and control could constantly reduce these expenditures per ruble of gross product. This view seems unsound to us, and here is the reason. The changes that come about over a period of time in the indicator of material resource expenditures per ruble of gross product result from many factors, among which some of the most important are structural advances in the production process and changes in the product assortment in line with the results of technological progress in the broad sense of the term--that is, affecting all aspects of production and pricing. The effects of these factors on the level of materials-intensiveness are contradictory and inter-related, just as all of the processes connected with production are inter-related.

Calculations of material expenditures and the gross product, as we know, are distinguished by the fact that the cost of the labor embodied in them is taken into account more than once. This means that we cannot be certain that the dynamics of the indicator of materials-intensiveness will objectively reflect changes in material resource expenditures in natural terms per unit of output. All of this means that we cannot expect the inclusion of materials-intensiveness among plan indicators to aid in overcoming resource shortages. Moreover, the planning of materials-intensiveness would reflect, in compound form, the shortcomings inherent in the planning of gross production, since materials-intensiveness is a relative indicator and not an absolute one.

One of the indicators in the system of material norms characterizing the degree to which crude resources or materials are used efficiently in production is the use coefficient, which represents the correlation of theoretical resource expenditures (net volume) per unit of output to the expenditure norm. The higher this coefficient is, the larger the output per unit of material will be. In connection with this, these indicators



deserve special attention in machine building and metal processing due to the considerable quantities of metal processed in these branches. There has also been heightened interest recently in the use coefficients of metals in machine building because USSR Gosplan has begun to estimate the use coefficients of several types of metal (rolled ferrous and nonferrous metal products and pipe) for each ministry, and this makes it possible to calculate them for machine building and metal processing as a whole. Judging by the data for 1976-1978, these indicators change (increase) slightly and even decrease in some years. All of this, along with known cases of the inefficient use of metal at some plants in the production of some machines, suggests that the system of norming is unsatisfactory because it does not guarantee radical improvement in the use of rolled metal products.

Another proposal advocates the setting of assignments for a higher metal use coefficient instead of assignments for the average reduction of expenditure norms; the norming process itself is to be limited to the enterprise level so that specific types of metals can be efficiently distributed among work positions. When this externally tempting proposal is given close examination, it turns out to be oversimplified, mechanical and--what is most important--capable of producing results that will be the direct opposite of those it is supposed to bring about.

It is true that a simple analysis indicates that a change in the use coefficient on the ministerial level is the result of changes in individual expenditure norms and of structural and assortment changes in production. The latter, as attested to by data submitted by ministries to USSR Gosplan, have a considerable effect on average annual metal use coefficients for different ministries and led to their reduction during the first 3 years of this five-year plan, particularly the indicator of ferrous rolled metal products. For example, whereas the fulfillment of ferrous rolled metal expenditure norms resulted in a rise of 0.7 points in the metal use coefficient of 11 machine-building ministries in 1978 as compared to the 1977 level, structural changes decreased the use coefficient by 0.9 points, which led to a general decrease of 0.2 points.

It is becoming obvious that the attempts to plan assignments for a rise in the metal use coefficient could give rise to a contradiction between the national economic need to produce certain products and the desire to improve the use of metal at any cost.

At the same time, the system of material normatives has virtually all of the necessary prerequisites for planning the improved use of materials. Existing normative documents contain data on the use coefficients of materials, beginning with machine parts. With consideration for this, the data of conservation plans compiled at enterprises could be used to calculate indicators of the total savings resulting from the reduction of expenditure norms, as well as the savings resulting from changes in the structural volume of parts, technological waste products and losses of materials in accordance with established enterprise normatives. Consequently, all of the necessary conditions exist for calculating and planning assignments



not only for the average reduction of expenditure norms, but also for the proportion connected with the reduction of waste and material losses.

Therefore, a planning instrument exists, with the aid of which the use of materials in production can be improved. Putting this instrument in action will require the thorough elaboration of proposals, within the context of plans, for the conservation of materials and the reduction of their waste in the production process. In connection with this, enterprises must take more responsibility for the structural product volume. The determination and control of quantities of blanks, parts, components and items should not only constitute a feature of high production standards, but also the basis of the validity of use coefficients and other estimated indicators on which planning decisions depend, and an integral part of the analysis of the structural metal content of items and the analysis of the norms governing the expenditure of materials in their production.

Procedures and methods for calculating and controlling the weight of series- and mass-produced items have been prepared and approved by USSR Gosstandart. It would be expedient to continue this work by assigning USSR Gosstandart the task of working out other instructions, with the participation of branch institutes and the approval of USSR Gosplan, to define the procedure of stipulating product volume and changes in this volume in the primary technical documents for the production of machine-building commodities; the procedure of controlling this volume, both in blueprints and in reality; the sequence and methods of volume control.

Calculations of the demand of enterprises, associations and ministries for material resources and the planning and distribution of these resources are essentially accomplished with the aid of expenditure norms. In accordance with the present practice, the expenditure norm includes the useful expenditure (net volume) of the resource and its technology-related waste and loss. Actual expenditures of material resources include all expenditures for the production of commodities (or the performance of work), including expenditures and losses connected with production defects and deviations from technical specifications.

Besides this, it has been proposed that actual expenditures of material resources for the preceding period be used as the basis of planning for material resource expenditure norms. These proposals are substantiated by the fact that there are cases in which actual expenditures per unit of output are lower than the norm and, for this reason, material resources are supposedly allocated according to overstated norms. We cannot agree with these authors, however, although their desire to eliminate shortcomings in the planning of material resources is understandable. It is not only that the use of data on actual expenditures for the planning of material resources will break the direct connection between planning indicators and the only basis for their calculation--namely, the technical and organizational conditions of production. The planning of material resources on the basis of actual expenditures would also signify a denial of the need to analyze

existing shortcomings and their causes and would automatically carry them over to the plan period, which is inconsistent with the requirements of scientific planning.

At the same time, a relatively simple analysis of actual expenditures and their comparison to expenditure norms indicates that deviations from the norm in either direction are the result of factors which must be carefully studied so that the proper measures can be developed and implemented for their elimination. In particular, these include the unsubstantiated planning of production in terms of total volume and assortment and the nonfulfillment of these plans due to their unrealistic nature or due to violations of state discipline. These also include the nonfulfillment of contractual obligations in regard to deliveries of material and technical resources, shortages in material and technical supplies and so forth. All of this influences the actual expenditure of material resources and causes it to deviate from the norm; this deviation should not be blindly recorded, but should be studied with a view to eliminating its causes, since they are always negative.

It is true that actual expenditures which fall below the norm are sometimes the result of the nonfulfillment of the production plan in the specified assortment. It is clear that this kind of underexpenditure cannot be equated with conservation, and that using this actual expenditure figure as a norm for the following plan period would mean that the necessary products would not be manufactured in the required quantities in the future either.

Overexpenditures of rolled metals can be measured in huge quantities: In 1976, they amounted to 280,000 tons in 14 ministries. Approximately 60-65 percent of this overexpenditure was due to a factor which has already become permanent--namely, changes in grades and sizes and the use of rolled metals instead of other materials.

Production defects and other factors are also responsible for much of this overexpenditure. We should not reconcile ourselves to this.

In recent years, it has almost become a tradition to blame all existing difficulties in material resource supply systems mainly on various shortcomings in norming in general and the constantly rising expenditure norms in particular. It would be wise to move from this kind of limited examination of the matter to a broader analysis of the basic factors involved in material consumption. It would be expedient to include data on the specific causes and perpetrators of underexpenditure and overexpenditure and on projected measures in reports on the fulfillment of norms and assignments for the average reduction in material resource expenditures. Enterprises should keep regular records (reflected in the appropriate documents) of the causes and indicators of extraordinary deviations from established material expenditure norms, which will allow for the more purposeful and objective implementation of measures to eliminate these causes.

Although actual expenditures per unit of output cannot be used directly for the planning of resource expenditures, they are extremely important in the analysis of resource utilization. If data on actual changes in expenditure norms are to be used in planning the norms for the next year, however, the modification of norms as a result of technical and technological improvements must be controlled and taken into account. This will make it possible, when norms are being planned for the next year, to calculate their level and reduction in comparison to the current year, taking actual expenditures of material resources per unit of output as the basis.

The work of improving the system of norming the expenditure of crude resources, materials, fuel and energy must continue. In this process, the observance of procedural principles and the basic premises of the existing system of norms must be ensured.

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## NEW NET OUTPUT INDICATOR DISCUSSED

Moscow PRAVDA in Russian 9 Oct 79 p 2

[Interview by S. Rodin, PRAVDA correspondent: "Improving the Mechanism of Economic Management: The Experiment"]

[Text] Work on fulfilling the decree of the CPSU Central Committee and the USSR Council of Ministers on improving the economic management mechanism is unfolding more and more extensively. The editors of PRAVDA are receiving letters from readers asking them to explain individual portions of this important document. For example, engineer-economist F. Revin from Krasnodar asks about the significance of the standard net output and how planning and accounting will be done using this indicator.

The category of standard net output has not yet become the property of the students of economics. It was born out of economic practice. But over an extensive period of time at many enterprises experiments have been conducted on planning production activity on the basis of this indicator. Enterprises of the USSR Ministry of Heavy and Transport Machine Building [Mintyazhmash] participated in these experiments. A PRAVDA correspondent has asked the chief of the planning-economic administration of Mintyazhmash, L. A. Busyatskaya, to respond to several questions on this matter.

[Question] In your opinion what has made it necessary to introduce the net output indicator?

[Answer] Briefly, it was brought about by the new situation that has evolved for the economic activity of enterprises and associations. The situation is such that the old criteria and evaluations, and particularly the "stress on production" [val] in its several variations, are becoming ineffective and sometimes even slow down the further development of production.

Today, in conditions of scientific-technical progress, the machinery and equipment that we produce are being systematically updated; their unit capacity and productivity are being raised. As a result there is a growth in the efficiency of work of the branches that use our equipment. However, at the same time there is a growth in the consumption of materials for manufacturing them. For example, the production association Uralmash is manufacturing the K-520 roasting machine in place of the K-306 that it produced previously. The productivity of the new machine is one and a half times greater on the average than the previous machine, but the consumption of materials is 16 per cent greater. The new output indicator takes this increase in labor intensiveness into consideration. This stimulates the creation of more progressive equipment, which cannot be said about the indicators for gross output, commodity and product sales.

At the same time we must note that it would be incorrect to perceive this indicator as universal, unique or all-encompassing. It is scarcely possible to acquire such an indicator. In the planning of economic activity one must take into consideration a system of indicators, not just one.

[Question] What is "net output"? How does it differ from "commodity" and "product sales"?

[Answer] Net output is a portion of the total cost (and price) of a manufactured article, which incorporates the labor of only a given collective that is expended on the manufacture of the manufactured article. Moreover, it is important to note that we are speaking about the labor expenditures of the collective, which are rated according to a standard (average expenditures for the branch are used for making the estimates). This has led to its being called the "standard net output".

If one speaks about the volume of commodity product, this is characterized by the total cost of the manufactured product and it includes, in addition to the labor expenditures of a given collective for the manufacture of an article, the labor of other collectives as well, which is incorporated into the cost of the materials, the semimanufactures, assembly articles and the depreciation of fixed assets, etc. This indicator unintentionally compels the enterprise to manufacture a product that is material intensive. And the volume of product sales characterizes the commodity product that is shipped to and paid for by the consumer.

[Question] What do you see as the chief advantages of the net output indicator?

[Answer] The advantages are that it provides an objective evaluation of the contribution of each labor collective to the development of the economy and the sufficiently precise determination of the extent of its participation in creating national income.

I will cite this example. The Dneprodzerzhinsk railroad car building plant produces railroad platforms on axles on sliding ballbearings that



are procured elsewhere at a cost of 5,650 rubles (per platform) and on rolling ball bearings at a cost of 6,950 rubles. Each platform that is manufactured on rolling ball bearings automatically increases its indicator of commodity and product sales by 1,300 rubles. But this does not do anything special for the plant! It is simply using a more expensive axle.

This is how things were before the adoption of the standard net output indicator. Now the achievements of the collective are determined only by the volume of its own labor.

However, this does not exhaust the essence of the matter. Now labor productivity will be estimated in a new way - as the ratio of net output to the number of workers. Naturally, by knowing the amount of net output, we will be able to more completely characterize the fruitfulness of labor and to more efficiently reduce possible "pores" in work time. All of this will be reflected in the increase in output and in the raising of product quality. The standard net output, while eliminating the motivation of enterprises to increase the consumption of materials in production, has a positive impact on lowering production cost as well.

And, finally, the use of the standard net output indicator makes it possible to more soundly, than for the indicator of commodity (or gross product) product, determine the need of the associations and enterprises for means to pay and to establish well-defined control over their expenditure.

**[Question]** For two years now the activity of the enterprises of Mintyazhmash has been planned according to the standard net output. What has the experience shown?

**[Answer]** For 1978 on the whole for the ministry the plan for the total of standard net output was fulfilled by 101.1 per cent; the growth in relation to 1977 came to 5.8 per cent.

For 1978 in the branch there was a correct correlation between the growth of labor productivity and average wages. With a growth in labor productivity of 5.5 per cent the average wage increased by 2.5 per cent. Moreover, the expenditure of the wage fund (considering payments from the material incentive fund) per ruble of the amount of standard net output was lowered in comparison with 1977 by 2.6 per cent.

In the first six months of 1978 the fulfillment of product list plan increased - the use of the indicator of standard net output noticeably affects this aspect of the business. However, toward the end of the year due to the unsatisfactory supply of assembly articles for electrical equipment, under deliveries of lumber and a specific assortment of rolled metal, a shortage of steel castings and forged pieces the situation changed. We know that the new indicator was not to blame: under any indicators the fulfillment of the plan for a product list to a large extent depends not only upon the availability of capacities, the timely and quality preparation of production and the efforts of the labor collectives, but also upon a well-defined material-technical supply system.

[Question] Wages are one of the components of the standard net output. In the press economists have cautioned that the adoption of this indicator may tend to make it advantageous for the enterprises to produce articles that are of a high labor intensiveness.

[Answer] Such misgivings are not confirmed by our experience. If the workers of some enterprise or another turn out a product that requires increased expenditures of labor, then no one will expend this labor for them. Why in such a case should they "pursue" labor intensiveness? On the contrary, it is now advantageous for the enterprises to conserve labor, since in the plan and in the accounting system unified, stable standards are used, and when actual labor intensiveness is lowered a reserve of time and labor resources is created which can be used for additional output of product.

[Question] How has the use of the standard net output indicator been connected with the problem of advantageousness of product for the enterprise?

[Answer] They are inseparable! Whereas the use of the commodity product indicator makes manufactured articles with an increased material intensiveness and with a large percentage of purchased assembly articles advantageous for an enterprise to manufacture, the use of the standard net output indicator makes manufactured articles equally advantageous regardless of their material intensiveness. This is the main thing.

But, of course, in speaking of this we must not forget that under existing practice of price forming manufactured articles continue to be advantageous or disadvantageous for the enterprise on the strength of the differing profitability. By producing more profitable manufactured articles, the enterprise receives more profit. Therefore, if the amount of profit in the wholesale price for articles will to a large extent depend upon labor expenditures and to a lesser extent upon the amount of materials that were expended, then the "advantageousness" due to the differing profitability will be lowered. This, by the way, has also been corrected in our branch. So we do have some experience with this.

[Question] Does the standard net output indicator promote an increase in the quality of the product that is manufactured?

[Answer] Yes, noticeably. The use of the standard net output indicator in planning decreases the negative influence of manufacturing new equipment in the first years of its assimilation upon the indicators of the production and economic activity of the associations and enterprises. Thus, in 1978 the output of manufactured articles of highest category of quality increased in our branch by 7.5 per cent; the percentage of articles certified by the State Mark of Quality amounted to 28.5 per cent of total production.

In conclusion I would like to say one more thing: the standard net output indicator will fully display its positive influence upon raising the efficiency of production and the quality of work only when all enterprises and associations begin planning their activity on its basis. Of course, this will require a great deal of preparatory work - after all for the entire

assortment of product that is manufactured in the Soviet Union (and there are several millions of product names) one must estimate and compare a second "price" - the price of human labor for the manufacture of each article - with the price. But this labor is fully justified, for we are speaking about speeding up the rates of growth of the national income of the USSR - the primary source for improving the lives of the Soviet people.

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## TURKMEN GOSPLAN OFFICIAL ANALYZES REGIONAL DEVELOPMENT IN REPUBLIC

Ashkhabad TURKMENSKAYA ISKRA in Russian 11 Oct 79 p 2

[Article by R. Bakasova, deputy director for scientific work of the Scientific Research Institute of Economics from the computer center of the Turkmen SSR Gosplan, doctor of economic sciences: "Problems of Planning: Combining Branch and Regional Development"]

[Text] In the decree of the CPSU Central Committee and the USSR Council of Ministers "concerning the improvement of planning and the strengthening of the effect of the economic mechanism on raising the efficiency of production and the quality of work" a system of measures are defined which are aimed at the further speeding up of the rates of development of the economy and raising the efficiency of public production.

In the decree it states that the most important trends in improving all planning work are the selection of the most efficient methods of achieving high final national economic results, the rational combining of branch and regional development, long-term and current plans, improving intra and inter branch proportions and providing for over all balance in the growth of the economy. Particular attention is given to combining branch and regional development as the most important factor for the comprehensive development of the Soviet national economy.

The Party and the government have always attached much significance to providing for the well-planned development of all union republics and economic regions of the Soviet Union. The demands upon the national economic plans of the union republics have constantly increased. For example, in recent years the indicator of the growth rates of national income, which was based upon the attainment of high final national economic results, has been included in the system of indicators used for planning. However, as is stated in the decree, on the whole the existing forms and methods of planning regional development do not correspond to the new tasks under a mature socialism. The basic shortcoming is the narrow branch approach in national economic planning. This is basically explained by the fact that in the Turkmen SSR there still has not gotten underway a well-planned process for formulating regional-production complexes and industrial centers. Intra and inter branch proportions of public production are improving slowly.

According to the decree, a comprehensive program of scientific-technical progress for 20 years (in five-year plan increments) and a draft of the basic trends for the economic and social development of the USSR for ten years will be drawn up.

Commencing with the Eleventh Five-Year Plan, the five-year plans of the union republics must be compiled with a break-down by year at a higher level, with provision being made for overall balance in all of its structural parts.

One of the shortcomings of economic practice is the lack of long-term plans for the development not only of individual enterprises and associations but also for republic-level branches of industry. Annual plans are the primary reference point for the branches. Some economic managers are engaged exclusively in thinking about fulfilling these plans and are not attaching the necessary significance to the prospects of growth. Under the new conditions of planning plans for two five-year plans will be approved simultaneously, which makes it possible to see the prospects for 10 years. The significance of scientific forecasting of social and economic development is increasing sharply. Taking this into consideration, the Economic Institute of the Turkmen SSR Gosplan in recent years has given more attention to the problems of long-term economic forecasting of the development of the republic's production forces. A "General schematic for the development and siting of production forces in the Turkmen SSR for the years 1976 through 1990" and a "Conception of the development of production forces of the Turkmen SSR to the year 2000" have been drawn up, which are being used to compile five-year and annual plans. They have also drawn up "Problems of the social and economic development of the Turkmen SSR in the Eleventh Five-Year Plan". The collective of scientists of our institute continue work on a more in depth study of the social and economic problems of the development of the republic.

In the process of forecasting they are taking into consideration the impact of such important factors as the demographic situation, the industrialization of agriculture, progressive structural shifts in the branch structure of industry, the constant growth in the role of the social infrastructure and the preservation of nature and the atmosphere and others.

They know that in the construction of the Karakum canal and in the accomplishment of other large projects insufficient attention was given to the problems of preserving the environment and the rational use of water and land resources. A consequence of this has been the salinization of large areas of fertile land and the raising of ground waters and others. Inadequate significance was attached to balanced development of the social infrastructure under conditions of the increasing influence of the scientific-technical revolution. As a consequence of this we have an inadequate level of efficiency in the use of equipment due to the shortage of highly skilled workers and specialists.

Particularly important is the study of the social and economic consequences of the scientific-technical revolution. Moreover we must not only take into



consideration the positive consequences of the scientific-technical revolution, which are characterized by a speeding up of the growth rates of labor productivity, but also to foresee some of its possible negative aspects.

The most important consequences of the scientific-technical revolution have been the increase in free time for the workers and a constant increase in the opportunities for satisfying the material and spiritual needs of people. Moreover in a socialist society, in contrast to a bourgeois society, there are levers for the well-planned influence upon the structure of consumption and the use of free time. For this in the national economic plans it is necessary to call for out-stripping growth rates of the public consumption funds and the speeded-up rates of development of the services branches, particularly education, health care and culture. Our institute is also giving attention to this problem. The problems of raising the standard of living and developing the sphere of services to the population of the republic are being drawn up for the immediate and long-term future.

In the decree of the CPSU Central Committee and the USSR Council of Ministers it states that as a most important component of state long-term plans for the economic and social development target, comprehensive scientific-technical and economic and social programs, as well as programs for the development of individual regions and regional-production complexes, which will be coordinated with the appropriate sections of the plan and with material and financial resources, must be drawn up.

At the Economic Institute of the Turkmen SSR Gosplan in recent years, on a level with other methodological and specific problems of national economic planning, the drawing up of target, comprehensive programs has been viewed as an important trend in the comprehensive development of the republic. In the "Conception of the development of production forces of the Turkmen SSR to the year 2000", the basic target programs which must be included in the national economic plans for the social and economic development of the Turkmen SSR are justified. These are long-term programs. The specific drawing up of these programs requires the coordination of the republic's scientific forces and the efforts of all involved ministries, departments and economic organizations. This, apparently, will require the creation of a new structural subdivision in the Turkmen SSR Gosplan for the planning of target, comprehensive programs.

Within our republic the formation of a cotton complex, as an integral part of the Soviet Union's cotton complex, is still underway. However up until now this process was being accomplished on a narrow branch basis without adequate coordination of the work of the ministries and departments that are participating in it. After all the cotton complex integrates the activity of all branches engaged in the production, processing, transporting, storage and manufacture of finished product. This complex is also connected with the industrial branches that produce equipment, fertilizer, construction materials and other things for the cotton growers.

A target program for the formation of a food-stuffs complex for the republic will also be drawn up, which will combine the efforts of the branches of agriculture and industry engaged in the production, processing, storage, manufacture and sales of finished product.

Much significance is attached to solving problems connected with the construction and assimilation of the zone of the Karakum canal. Raising the efficiency of the use of water, the adoption of new equipment for irrigation and land reclamation, the struggle against the salinization of soils, the accomplishment of measures for the protection of the environment, the creation of a large branch for the breeding of fish, the achieving of an optimal branch structure of agriculture and industry and the problems of settling the population in the area affected by the canal - these and other important problems must be solved by the compilation and inclusion into the national economic plan of special target program.

The Karakum Desert occupies nearly 35 million hectares. The enormous natural resources of the desert must be assimilated on a well-planned basis. However, up until now each branch is undertaking its own activity in the Karakum without adequately taking into consideration the interests of the overall state. The vegetation cover and animal world of the desert have been especially harmed by this. Questions having to do with the intensification of sheep raising and camel raising by improving desert pasture lands are slowly being resolved. The recommendations of scientists who are studying the problems of the desert are not sufficiently being taken into consideration. The target program on the economic assimilation and environmental preservation of the Karakum Desert will make it possible to combine and mobilize the resources of all involved ministries and organizations.

It is also necessary to draw up a target comprehensive program for the rational use of labor resources and the development of the economic infrastructure. This planning task is made necessary by the high rates of natural growth of the republic's population. Under the new conditions of economic management, when a limit of the work force is being imposed and the wage fund will depend directly upon the amounts of net output, the enterprises will be unable to use the excess work force. The enterprises will be motivated to to constantly raise the skill levels of personnel and to lower the percentage of manual labor. At the same time as in many regions of the Soviet Union in the near future there will be a shortage of workers, our republic will not experience a shortage in the work force. Consequently, the main problem is the correct distribution of the work force and the constant raising of its skill level.

In this aspect the institute is performing such scientific research as the basing of the structure of employment of the population of the Turkmen SSR considering the prospects for the development and siting of production forces in the oblasts of the republic, the social and economic foundations for the development of training skilled workers, the prognosis for the training of specialists with higher and middle specialized education. In

this instance the drawing up of a comprehensive target program will require the combining of the efforts of all scientists of the republic who are engaged in this field.

To raise the rates of the economic development of the republic it is important to speed up the formation of the Eastern Turkmen regional production complex. At present our institute jointly with the council for the study of production forces under the USSR Gosplan is working intensively to include this problem in the republic's national economic plan for the next five-year plan.

There are other large economic problems that are being drawn up as target programs on a national scale. For example, the formation of the petroleum and chemical complex, the development of a fuel industry, the elimination of physical manual labor and others. These problems, of course, are not being included in the republic's state plan as regional target programs. However, republic-level organizations are making their proposals for the development of these branches, which must be taken into consideration in the all-union target programs.

One of the factors for raising the efficiency of production, the significance of which will steadily increase, is the adoption of computer automated control systems (ASU) and economic-mathematical methods at all levels of planning and management, as well as their extensive application in production.

The Economic Institute of the Turkmen SSR Gosplan is the republic's lead institution for drawing up ASU problems. The basic goal is to create an automatic control system of the entire national economy. This is a difficult and complicated task, which is being resolved for the first time ever. The central link of the ASU systems that are being created in the republic at various levels is the automated system for planning estimates (ASPR). At the institute work on the first stage has been accomplished and handed over. Work is now underway on the second stage of the ASPR. We have highly skilled specialists. Nonetheless on this problem we are coordinating our work with other republics, which have more experience and knowledge on these matters. The adoption of ASU is being drawn up as a target comprehensive program for the Soviet Union; measures for accomplishing it in the republic are of importance for improving the system and methods of regional planning.

New tasks, evolving from the decree of the CPSU Central Committee and the USSR Council of Ministers, require a new approach to the problems of regional planning. There is no doubt that the scientists and economists of the republic will make a valued contribution to the solution of these tasks.

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## AZERBAJDZHAN GOSPLAN OFFICIAL DISCUSSES MANAGEMENT PROBLEMS

Baku BAKINSKY RABOCHIY in Russian 5 Oct 79 p 2

[Interview by R. Kengerli with the First Deputy Chairman of the Azerbaydzhan SSR Gosplan, F. D. Rustambekova, in which she responds to letters from readers of BAKINSKIY RABOCHIY: "Improving the Mechanism of Economic Management: A New Stage"]

[Text] [Question] Farida Dzhaferovna, since the publication of the decree of the CPSU Central Committee concerning the further improvement of the economic management mechanism and the tasks of the Party and state organs and the decree of the CPSU Central Committee and USSR Council of Ministers "Concerning the improvement of planning and the strengthening of the influence of the economic management mechanism upon raising the efficiency of production and the quality of work" more than two months have gone by. During this period the mail of BAKINSKY RABOCHIY has brought many letters from readers who are asking for explanations to various provisions of these documents and who are expressing their judgments about the beneficial consequences of realising the measures that are planned. Some of the readers have already received answers to their questions in previously published materials that appeared in this newspaper under the title of "Improving the Economic Management Mechanism". But we would like to ask you to respond to some of the letters.

We feel that the key to our discussion can be provided by the letter from engineer V. Isamylov. This is what he writes in part: "The published materials provide a clear representation of the enormous significance of the planned measures and of the scale of the improvement to the management of the economy that is being undertaken. But for someone who does not have special training it is difficult to comprehend in detail the substance of all of these measures. I would like for the newspaper to provide competent answers, which are readily understandable to a broad circle of readers, to the questions that are connected with the new stage in improving the management of the national economy."

And so, the question of several readers is: what has brought about the new measures in the field of the economy?



**[Answer]** The aspect and dimensions of the Soviet economy have changed considerably in recent times. We are now producing more industrial product than was produced by the entire world 30 years ago. In the USSR at present approximately 12 million different kinds of industrial products are being manufactured. At the end of last year fixed assets exceeded 1.5 trillion rubles. An enormous economic potential has been created. But there are still quite a few reserves at its disposal, the realization of which promises a great effect. One way to achieve this is to improve economic management, i.e., the methods of planning and managing the economy.

We are now faced with relying primarily upon intensive growth factors, i.e., to maximize the efficiency of using the economic potential that has been created. I will cite as a comparison an example from another area so that all readers can understand one of the underlying provisions of the Party's economic policy at present. There are two ways that one can achieve a growth in agricultural product - by increasing the amount of cultivated fields and by increasing the productivity in existing fields. For the time being one can assign more and more new land to cultivation. But at some point it is more rational, if you will, to put a stop to increasing the amount of cultivated fields and achieve growth in per hectare productivity, i.e., raise the efficiency of the use of the land. A situation has evolved in the Soviet economy today that is similar to this, whereby it has become necessary to put the primary emphasis upon intensive development.

In addition one must take into consideration that the next few years will be characterized by several important distinctive features. They include, for example, the four-fold decrease in the growth of able-bodied workers (the consequence of war), the rise in the role of Siberia, the North and the Far East as sources of energy and raw material resources and the subsequent increase in expenditures for their extraction and transport.

This is why the Party is requiring an increase in efficiency at all sectors of the national economy, of labor productivity and the economical utilization of all material resources. This is the only way that it is possible to create the needed conditions for the dynamic and balanced development of the economy, which is needed for the further growth of the material and cultural well-being of the Soviet people, a degree of meeting the needs of the Soviet citizens, for the strengthening of the Soviet military capability and the steadfast advancement of Soviet society toward communism.

**[Question]** Here are some lines from a letter from brigade chief of a machine building plant, D. Ibragimov: "It often happens that some enterprises undersupply us with needed materials or that they arbitrarily make substitutions. Later we learn that these same plants regularly fulfill their plans and are considered outstanding and enjoy all attendant benefits. While we, being deprived of the opportunity to fulfill our plan, often are deprived of our bonuses. How can this be explained?" This letter and our discussion topic have common ground, wouldn't you agree, Farida Dzhafova? Please comment on this.



[Answer] One could speak at length about the negligence of the suppliers and of their lack of a sense of responsibility, etc. But the essence of the problem that Comrade D. Ibragimov has raised is not so much in the lack of good faith of the supplier collective as it is in the inadequate motivation of the supplier to meet its contractual obligations in a timely and precise manner, in the shortcomings of the system of evaluating the results of economic management and in those negative phenomena that arise when using gross-cost indicators. Several other problems are connected with these problems, which are raised in the letters of engineer V. Ismaylov, economist A. Luk'yanov and operator A. Radzhabov. For this reason I will respond to all four letters at the same time.

At present the results of the work of an enterprise are evaluated in the basic fulfillment of the plan for gross output and sales, expressed in rubles, tons and other such units. Product list and the quality of the manufactured articles, the timeliness that they are delivered to the consumers, and this implies the product that was ordered rather than a similar product that has other characteristics - all of these things are of secondary importance. But the customer does not need rubles or tons, he needs a specific product within a specific time period. When the time period is not met, the enterprise itself disrupts the time periods for the delivery of its own product to customer. And the chain continues on. In this manner great losses are inflicted on the national economy.

This is why the decree of the CPSU Central Committee and the USSR Council of Ministers stipulates that in evaluating the economic activities of the enterprises the advancement of the fulfillment of contracts with related industries to primary concern and a system of measures for strengthening contract relationships. The enterprises are gradually switching over to two-sided direct economic contracts, which are concluded for a five-year time period. The supplier and consumer stipulate all product characteristics to be received by the second party from the first and the time periods for their delivery in the contracts. The results of the activity of the enterprise, as mentioned above, will be evaluated primarily according to the exactness with which these contracts are fulfilled. This is of principle importance. Such a system will encourage each sector of our national economy to achieve high final economic results.

But I would like to direct attention to the place in Comrade D. Guliyeu's letter where he says that the suppliers at any time arbitrarily send materials other than those that are needed. I will discuss one of the reasons for this happening. The gross-cost evaluation of economic activity promotes not only the lack of motivation of the collectives to observe their obligations to suppliers, but also gives rise to a great other negative phenomena in our economy. I shall cite fictitious examples that are not so far removed from reality.

An enterprise needs a specific size rolled metal. But the supplier sends rolled metal considerably large. Forced to use it, the consumer manufactures excess durable constructions that exceed all norms of metal consumption, i.e., it squanders metal.

A plant needs low capacity electric engines. But the supplier produces few of them, preferring to produce high-capacity engines. The consumer has no choice but to use the high-capacity engine, which results in the expenditure of an excess amount of electric power.

One more typical example. The scientists and designers have devised a new model of a device that is manufactured by a certain plant. The manufacture of the new device requires fewer costly materials and in addition the new device will be more effective than one that is mass produced. But the director of the enterprise dismisses the specialists....

At first glance you would agree that the managers of all of these enterprises are trying to manufacture rolled metal that is "thicker", are preferring to produce (while using more wire and metal) electric engines that are "more powerful" and are turning away from a proposal that is clearly advantageous to the national economy - that they are acting paradoxically. But the truth of the matter is that their paradoxical behavior makes it easier for them to fulfill the plan - such products cost more, and the plan is "lowered" in its cost expression. All of this leads, in part, to excessive expenditure of material resources, which, alas, are not easily come by and which are not in unlimited supply.

After all, all of these directors are economizing on the cost of raw materials. These enterprises are fulfilling the plan not because they are operating well but because to achieve success they are exploiting the cost of the raw materials and the labor of those who extract them. To eliminate such negative phenomena, the decree of the CPSU Central Committee and the USSR Council of Ministers calls for the switchover to evaluating the results of the activity of the enterprises according to the growth in net output (standard output). Net output (I am answering V. Lebedev's question) is a newly created product, i.e., roughly speaking, it is the cost of the manufactured article minus the cost of the raw materials, materials, semi-manufactures, assembly articles and services. This amount corresponds to the contribution made by a given collective in manufacturing a product. By the way, the growth of this amount will be promoted by the increase in the quality of the product. The introduction of this indicator will have a "side" effect - the collectives will be more motivated than now to work on good faith and the reliability of their product.

[Question] By the way, here is a letter from a teacher, D. Kanbarov, who asks us to discuss measures for raising the quality of industrial product and its technical quality as well.

[Answer] I will start with those innovations that are seen in a positive light, of which I spoke before - the evaluation of the activity of enterprises according to the precision that contracts are observed (for the contracts stipulate qualitative indicators as well) and according to the growth of net output. Several special measures will directly promote this. Product quality will become one of the most important indicators determining the success of economic activity along with those points noted above, as well as with labor productivity and profit of the enterprise. In addition,

the wholesale price for products bearing the Mark of Quality will include mark ups and, on the contrary, products of second category will be discounted from the wholesale price. It is believed that quality will be promoted by the fact that the administrations of the enterprises are receiving more rights to determine the wages of their workers. At present economic managers can arbitrarily raise the pay for especially skilled workers. This, of course, leads to a desire to work good that is of a high quality. One other factor. Among the enterprises planning indicators the following will come into play: the growth in the professional education of the workers and the reduction in the use of manual labor, which, undoubtedly, will also influence improving the product quality. The role of the planned extensive measures on standardization must also be noted.

Now a few words about measures for raising the technical standard of manufactured articles. It is no secret that at present the enterprises are starting to change the assortment of articles; the assimilation of new kinds of product is very reluctantly undertaken. The director of whom I spoke earlier that turned his back to the scientists who had proposed an improved device did so not only for the reason that I mentioned, but also for the reason that the enterprise while switching over to the manufacture of the new product is deprived of many benefits - bonuses and the glory of being a leading plant and so forth. After all the assimilation of something new causes all sorts of problems - the plan is "disrupted", people leave the plant and the plant experiences losses...

But now in the ministries and departments there will be created a single fund for the development of science and technology, the funds of which will be used not only for financing scientific-research and design work, aimed at creating the new product, technique and technology, but also, and this is very important, will be used to offset the enterprises' expenditures that are connected with the assimilation of the new product and technology, and their increased expenditures in the first years of producing the new manufactured articles. In addition, just as with manufactured articles that bear the Mark of Quality, the new highly efficient product will have higher wholesale prices.

[Question] On behalf of the readers we thank you, Farida Dzhaferovna, for your thorough answers to their questions.

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## UZBEK PARTY SECRETARY DISCUSSES SCIENTIFIC-TECHNICAL PROGRESS

Tashkent EKONOMIKA I ZHIZN' in Russian No 8, 1979 pp 2-7

[Article\* by I. Anisimkin, secretary of the Uzbek CP Central Committee and chairman of the Republic Council for Promotion of Scientific-Technical Progress of the Uzbek CP Central Committee: "Strengthening the Alliance Between Science and Production"]

[Text] Speeding up scientific-technical progress, increasing the efficiency of scientific research, and maximum reduction of the time before results are applied in practice--these are the key questions in performing the historic task set by the 25th CPSU Congress: "... organic combination of advances of the scientific-technical revolution with the advantages of the socialist economic system."

In carrying out the decisions of the congress the Uzbek CP Central Committee is concentrating the attention of scientists, heads of ministries and departments, engineering and technical personnel and production innovators on the principal problems in the future development of the republic's economy. Here are some of them.

As we are all aware, Uzbekistan possesses abundant potential energy resources, and this is a good prerequisite for faster development of the electric power industry, which will make it possible to raise the growth rates of the power per worker ratio and to fully mechanize and automate production processes.

The republic's machinebuilders have been set important tasks in reequipping many industries. The use of up-to-date manufacturing processes in industry is to expand substantially. We are thinking in particular of use of the oxygen lance in smelting nonferrous metals, vacuum cold and hot die forging, powder metallurgy, and the use of diamond tools.

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\* The author prepared this article at the editors' request on the basis of his paper delivered at the republic scientific-practical conference on the topic "Effectiveness of Applying Scientific-Technical Developments to Production in the Light of the Decisions of the 25th CPSU Congress."



Provision is made for further improvement of the technological process in cotton ginning. And in light industry there is a need to develop the optimum product mix and to make extensive use of new types of raw and processed materials, especially chemical fibers and artificial leathers.

A great deal of work needs to be done for progressive construction methods to be disseminated and adopted everywhere, using the experience already gained in the republic. The rates of development of the building materials industry should also be increased.

The main direction of scientific-technical progress in agriculture is full mechanization, electrification and chemicalization of agricultural production. An urgent need has arisen to sharply increase socialized livestock raising and to put it entirely on an industrial basis.

Solving these important and complicated problems depends in large part on our scientists. Before them is a broad open field for their activity, for application of their creative energies, talent and knowledge. All that is needed is to conduct scientific research and development projects sensibly, with the highest return, carry them to their logical end, and use the results more quickly in practice.

Uzbekistan possesses a rather large scientific potential. More than 30,000 scientists, including 870 doctors and 12,000 candidates of science, are working in our numerous institutes and laboratories. They have everything they need for creative work. Sizable funds of the state are being spent to develop science in the republic. Last year alone these funds exceeded 50 million rubles.

Unremitting attention must continue to be paid to concentrating the energies and facilities of science on the decisive lines of economic development so that the most effective use is made of this powerful scientific potential. The republic's scientists are doing much that is worthwhile in this regard. Research institutes of academies and sectors and higher educational institutions are year after year increasing their contribution to faster scientific-technical progress. The results of their research are being applied not only in Uzbekistan's economy, but also outside Uzbekistan. Here are some illustrations.

A few years ago S. A. Azimov, member of the Uzbek Academy of Sciences, developed a technology for obtaining very pure silicon. Its industrial application is yielding an economic benefit exceeding 1<sup>1</sup>/<sub>2</sub> million rubles per year. Another of the scientist's innovations--an instrument for determining the silk content of cocoons without splitting them--is now in the stage of application. Its expected benefit exceeds a million rubles in Uzbekistan alone.

A. I. Glushenkova, doctor of engineering sciences, has developed a low-temperature regime for hydrogenation of cottonseed oil in the presence of a



dispersed-phase copper-nickel catalyst. Use of this regime at the Tashkent Oil and Fat Combine is yielding a sizable economy every year.

The young scientist A. A. Akhmedov proposed in his candidate's dissertation a design for reinforcing the beds of 300,000-kw turbine-generator units. Use of this design yielded a gain of 500,000 rubles.

High-yield varieties of "Tashkent" cotton have been raised in the Institute of Experimental Plant Biology of the Uzbek Academy of Sciences; they are confidently being introduced in kolkhoz and sovkhoz fields not only in Uzbekistan, but also in other cotton-growing republics of the country and are yielding an annual saving of 300 million rubles.

A group at Samarkand State University has developed a biological method of combating agricultural pests which is now being widely used not only in our country, but also in Bulgaria, Yugoslavia and Cuba.

We might continue with illustrations of the high effectiveness of science. It is sufficient to say that the yield for every ruble invested is nearly 5 rubles merely at the institutes of the republic's academy of sciences.

But the potential is far broader. An analysis of the state of affairs in 72 scientific institutions concerning use of completed research projects shows that nearly half of them have not been applied in the economy. Many development projects promising a sizable economic benefit have a long and problematical road to travel before application, which sometimes wait 5 years or more.

One of the things lowering the effectiveness of science is the incompleteness of a large number of research projects. Some of them have not gone through full-scale tests, while others have not been backed up with the necessary documentation or lack technical-and-economic feasibility studies. We also encounter cases when research plans altogether omit the set of problems related both to development and industrial application.

This May the Uzbek CP Central Committee took up the question of the work of the republic's academy of sciences in increasing the efficiency of application of results of scientific research projects in the economy and pointed to the need to improve the planning of research and to make scientists more responsible for the ultimate results of their work. At the same time, it was noted that industrial application of highly effective developments is sometimes delayed through the fault of individual ministries, departments and enterprises.

Since speeding up scientific-technical progress is one of the tasks of particular political and state importance, the Uzbek CP Central Committee has required oblast, city and rayon party committees to devote their constant attention to it and to increase the responsibility of directors of enterprises, organizations, scientific institutions and their party committees for faster application of scientific and technical advances in the economy.

Scientific work in higher educational institutions is an important component of the republic's scientific potential. Tens of thousands of highly qualified specialists capable of doing important research on their own are working in our educational institutions. In recent years they have begun to be involved in solving the problems of industry. During the current 5-year period alone the amount of work under business contract done by scientists of VUZ has increased 1.5-fold. Their creative relations with industrial enterprises are developing and will become stronger.

For instance, scientists of the Tashkent Institute of the Textile Industry and Light Industry have for many years now been collaborating fruitfully with collectives of the textile combine in the capital and the production associations Uzbekkhlopkomash and Uzbektekstil'mash. Just one of the developments of the staff scientists of the institute--a new design of roller gin--is raising labor productivity 2-2.5-fold at enterprises of the cotton ginning industry.

Tashkent State University imeni V. I. Lenin, the Tashkent Polytechnical Institute, the Tashkent Highway Institute, and the Tashkent Institute of Railroad Transportation Engineers maintain firm business contacts with enterprises.

But even now the potential that exists is not being fully utilized by any means. There still is not efficient coordination of actions between VUZ and enterprises in planning and financing research projects. People in industry are not showing enough interest in establishing creative relations with academic institutes, nor are the academics showing sufficient initiative. This especially applies to the use of valuable proposals worked out in candidate's and doctoral dissertations.

Here is a typical example. S. S. Saidmuratov, docent of the Tashkent Institute of the Textile Industry and Light Industry, made the case in his candidate's dissertation for a continuous technology for manufacturing elastic threads. This research is needed very much, since fabrics made of these threads are in great public demand. The scientist offered his services to the republic's Ministry of Light Industry. The people there at first seized upon the new manufacturing method, but then they rejected it.

The Uzbek scientist's proposal was treated altogether differently, in a businesslike way, at the Klin Chemical Fiber Combine. There they quickly tested the new procedure and for about 10 years now have been manufacturing high-quality fabric. We are still compelled to import it from outside. There you have the price of an indifferent attitude toward the creative initiative of scientists. We cannot put up with cases like that. It is our party duty to further the progress of everything that is new and progressive and to show maximum concern about people who are searching and advancing scientific-technical progress.

Recently industrial ministries and departments have begun to concern themselves more with the development of their respective fields of science and to strive for an organic union of science with production. Institutes of sectors and industries, which have highly qualified personnel, are using the specific requests of industry in structuring their work, and they are achieving substantial results.

For instance, a new method of obtaining low-temperature sulfur (sul'fomine-ral'nyy) cement, whose use is yielding a substantial economic benefit in construction, has been developed in the Stromproyekt Scientific Research Institute under the direction of M. I. Nudel'man, doctor of engineering sciences.

Major scientific-technical development projects are being conducted on a contract basis by an affiliate of the All-Union Scientific Research Institute for the Knitwear Industry and the Central Scientific Research Institute of the Silk Industry with the Uzbek Ministry of Light Industry.

Experience shows that development of science on a sectoral basis is one of the most effective ways of strengthening the relations between science and production. That is why unremitting attention should be paid to this question in the future as well.

Our production innovators and inventors have a large role in increasing the efficiency of social production. The army of enthusiasts of technical progress is growing every year. Today it numbers more than 60,000. The effectiveness of their creative exploration is also increasing steadily. Last year alone more than 123 million rubles were saved thanks to introduction of inventions and production innovations.

These successes were achieved thanks to the talent and creative energy of people with a curious turn of mind such as Yu. Chinnov, team supervisor of the Office for Experimental Design and Technology of Packing and Packaging Equipment of the All-Union Association Soyuzbytkhim. He is the originator of 80 inventions, whose use has yielded a large economic benefit. The unit he invented for packing packaged products has been patented in England, Italy, Czechoslovakia, GDR, France and Hungary.

More than a million rubles have been saved in the national economy by introducing 15 inventions of F. A. Abdukadyrov, candidate of chemical sciences. Production innovator V. V. Volosatov of Andizhan has submitted 13 proposals. The economic gain is 220,000 rubles. Nor does the list end there.

Inventors, production innovators and other people with curiosity deserve honor and respect, they should be provided conditions for their creativity, they should be shown concern and attention, and their proposals and initiatives should be given close attention.

Much remains to be done to improve licensing under patents. The decision to create departments for patents and licenses in ministries and departments and at enterprises was taken some time ago. But they have not been organized everywhere by any means. In some places where these subdivisions do exist, they have not been staffed with sufficiently competent specialists, and their performance is, of course, low.

The republic now has two interdepartmental patent and licensing organizations; these are the patent library of the Uzbek Scientific Research Institute for Scientific-Technical Information, whose holdings number about 10 million patent documents, and the Tashkent affiliate of the All-Union Patent Service Center. Both of these organizations possess adequate technical facilities and a large staff, but they are far from fully satisfying the requests of their clients. It is evident that Uzbek Gosplan should take steps to create a unified regional patent library for the republic so as to improve the efficiency of patent work and licensing and the quality of the patent services rendered.

One of the main directions in the effort to increase the efficiency of social production has been and remains popularization and adoption of progressive know-how and the most recent advances of science and technology. Purposeful work to disseminate and apply progressive work methods and technical innovations is being done at certain enterprises of machinebuilding, the chemical industry and the electrical equipment industry. But very little is being done at present to learn from their experience.

To some extent this is explained by shortcomings in the activity of our scientific-technical information services, whose purpose it is to be the most aggressive popularizers and advocates of everything that is new and progressive in science and technology.

The Uzbek CP Central Committee is paying constant attention to improvement of the work of these services and is extending the necessary aid and support to ministries and departments in strengthening their physical facilities. But whereas the republic's ministry of highway transportation, say, has done a great deal in recent years to create an effective scientific-technical information system for that industry, this work has still not been satisfactorily organized in the ministries of communications, the cotton ginning industry, the food industry and local industry.

It is absolutely intolerable to take such an attitude toward scientific-technical information and services for studying patents and licenses. In our time a senior official at whatever level must constantly keep abreast of innovations in science and technology, and must replenish and enrich his professional body of knowledge. It must be understood that information is an indispensable management instrument in the economic system; without it is difficult to make the right decision, and in the very near future it will be altogether impossible to manage an up-to-date and technically sophisticated enterprise without it.

As was emphasized in the decisions of the 25th CPSU Congress, the success of the scientific-technical revolution and its beneficial impact on the economy and all aspects of the life of society cannot be ensured by the efforts of scientists alone. An ever greater role is being assumed by the involvement of all participants in social production in this process of historic importance.

This demand of the party concerns every worker in our republic. Solving the major problems of raising efficiency and improving the quality of performance depends in large part on the attitude we take toward the recommendations of science and toward application of the results of research the scientists have done.

In the years of the 10th Five-Year Plan the republic's industry has taken a new step forward in the technical improvement of production. In all 680 sections and shops have been fully mechanized and automated, and more than 10,000 pieces of equipment have been modernized. All this has made it possible to make more than 15,000 persons available and to achieve an economic benefit amounting to 150 million rubles.

But reality is demanding more. Judge for yourselves: the level of mechanization is only 50 percent in the industrial sector. This is extremely low. At the same time certain ministries and departments are regularly failing to fulfill plans for new technology, and they are not making consistent use of this greatest potential for raising labor productivity.

It is simply amazing that in our time there are enterprises which year after year do not introduce new technology and which stand aloof from the main line of our economy's movement. Of course, the introduction of any technical innovations, especially major ones, means that additional pains have to be taken, additional outlays of materials and money have to be made, and greater human efforts are required. But by no means can this serve as a justification for managers who fail to cope with the measures of scientific-technical progress.

Everyday experience convinces us that today it is very difficult to manage scientific-technical progress at all levels without a fundamental reworking of the organizational structure of production, and sometimes it is simply impossible. Improvement of the entire system for management of technical progress is becoming increasingly urgent. In the republic's industry abundant experience has been gained in the comprehensive approach to solving this problem.

We can take as an example the Tashkent Aviation Production Association imeni V. P. Chkalov where plans for raising labor productivity have been overfulfilled for many years running. The whole point is that the aircraft builders thoroughly thought out the system for management of scientific-technical progress. Performance of measures called for in plans for new technology is one of the principal indicators by which they evaluate the



performance of shops, divisions, sections and teams. And, of particular importance, effective monitoring has been organized in all production units. This increases the moral and material responsibility of all the association's workers.

It is no accident that they have no failures to fulfill plans for new technology, and innovations scheduled for adoption are supported with everything necessary in good time.

The comprehensive computerized system for management of scientific-technical progress is also functioning effectively in the association Sredazkabel'. The problem is to disseminate this constructive experience as widely as possible into all sectors of the republic's economy.

Plant research laboratories are expected to play a particular role in speeding up scientific-technical progress. They have been created and are operating very effectively at many large enterprises. In particular, attention should be paid to the work of the laboratory of the Almalyk Mining and Metallurgical Combine imeni V. I. Lenin, which is solving complicated engineering problems such as introduction of the technology for hydrometallurgy, economizing on secondary energy resources, etc.

But the activity of many plant laboratories is sometimes not yielding the necessary results because few major scientists are working there. Heads of ministries and departments should give a thought to creating the necessary conditions at enterprises for the creative work of specialists with higher qualifications.

Increasing the quality of products produced and development of new products are a most important direction of scientific-technical progress. The importance of this work is quite obvious, since improvement of quality is today not only an economic problem, but also a social and political one.

The campaign for high product quality has been organized on a broad front in our republic. Comprehensive quality control systems are operating successfully at 50 enterprises, and they are in the stage of introduction at 500 enterprises.

Since the beginning of the current 5-year period about 700 new machines, equipment and instruments have been put into production in Uzbekistan, and 229 enterprises are now manufacturing 1,657 products bearing the state Quality Emblem. The electric motors, power transformers, elevators, cotton pickers, and many automatic instruments and pieces of equipment we manufacture have won a reputation for excellence.

But there are also enterprises whose products do not meet the requirements of the times and are rightly being criticized by consumers. At the present time it is intolerable to drag one's feet in organizing series production of new products.

Party and economic agencies and our technical intelligentsia should pay greater attention to questions of quality. We cannot forget in this context that high performance characteristics of new products depend in large part on the quality parameters embodied in them in the development stage.

Creation of pilot and experimental facilities of the institutes of the academies and industries and of higher educational institutions is an indispensable condition for improving the results of scientific work. But in speaking about the need to organize and reinforce such facilities, we frequently forget about efficient utilization of those we have.

The Electronics Institute of the Uzbek Academy of Sciences, for example, has a very strong experimental design facility with a staff of more than 400, but so far we have not seen an adequate return from it.

Design and technology bureaus and pilot production operations exist in many enterprises and departments, but not all of them are having a substantial impact on the technical policy of their respective sectors and industries.

Virtually any of our sectors or industries has important opportunities, qualified personnel, and physical and financial resources to solve the problems of technical progress. The trouble is that often these energies and facilities are impermissibly squandered. That is why the question of concentration and optimum utilization of scientific personnel and material resources are one of the conditions for solving the problem of strengthening the relationship between science and production.

All the prerequisites and economic feasibility exist for setting up large scientific-production associations [NPO], which round out the entire cycle "from development to application" and are capable of solving the major technical problems of production. Such associations as Tekhnolog, Signal and Kibernetika are operating successfully in our republic.

This road must be followed in the future by setting up NPO's in light industry, the food industry, the meat and dairy industry, and other industries.

There is also another way. This is to set up large scientific-production complexes on a business contract basis; they would include academic institutes and production associations under the overall supervision of specialized coordinating councils.

It is an inevitable process in the rapid economic development of our time to face technical problems which can be solved only by equipping ourselves with new methodological foundations. More and more frequently we are encountering the terms: "comprehensive approach," "comprehensive program," and "comprehensive plan." This is understandable. Most of the promising scientific-technical developments are complicated by nature and cover more than one industry or sector. Their adoption involves a multitude of large and small problems whose solution "ties together" a large group of participants and

requires commitment of sizable material resources. It is the comprehensive approach that makes it possible to coordinate all the actions into a unified process.

At the beginning of the current 5-year period the scientists of the Uzbek Academy of Sciences, jointly with specialists of the republic Gosplan and interested ministries and departments drew up 11 comprehensive scientific-technical programs for key problems of regional importance. Fulfillment of those programs is in a way like working out a new technology for adoption of engineering developments. Most of these programs are being carried out competently and on schedule.

Problem laboratories of specific sectors and industries have shown themselves to be a promising method of linking science and production. There are already several such laboratories in our republic. We should continue to set them up in the future on a broader basis.

Councils for promotion of scientific-technical progress, which have been set up by decision of the Uzbek CP Central Committee as adjuncts of oblast, city and rayon party committees, are extending a great deal of help in the matter of industrial application of scientific-technical developments and in strengthening the alliance between science and practice. Today Uzbekistan has 12 oblast, 26 city and more than 100 rayon councils in operation, and about 600 special-topic commissions have been formed within them.

More than 6,000 highly qualified specialists, scientists, production innovators, and key officials of party, soviet, trade union and Komsomol organs are taking an active part in the work of the councils for promotion of scientific-technical progress.

The scale of this work is indicated by the fact that the councils for promotion of scientific-technical progress has examined about 3,000 current scientific-technical problems which have extremely great importance to Uzbekistan's economic development. Specific recommendations, whose performance is constantly followed up, have been adopted on every question discussed. The productive activity of the councils for promotion of scientific-technical progress is unquestionably yielding a real economic benefit.

If forward movement is to be effective, one must look into the future. This year the scientists of the republic's academy of sciences have for the first time drafted a comprehensive program of scientific-technical progress and its socioeconomic consequences up to the year 2000.

This substantial document has outlined formidable tasks in further augmentation of the volume of production of cotton, in utilization of water and human resources, and in the creation of a number of new industries, cities and rayons, and solution of major social problems is also provided for. That is, to put it a different way, our life has been planned 20 years in advance.

Carrying out this program requires a thorough reorganization of our work and a new application of effort. We must honestly and frankly admit that we are still lagging behind the country's leading regions in the level of development of certain lines of scientific-technical progress. The task is to close that gap in the next few years and move out into the forefront of scientific-technical progress.

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## BALANCE SHEETS OF INTERCHANGEABLE MATERIALS IN REGIONAL PLANNING

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 7, Jul 79 pp 44-49

[Article by Yu. Lapchenko, deputy division chief of Ukrainian Gosplan and candidate of economic sciences, and V. Lapchenko: "Comprehensive Balances of Interchangeable Materials"]

[Text] The present scale of production, the complexity of socioeconomic processes, and the rates and scope of scientific-technical progress necessitate an improvement of planning and in particular introduction of the method of planning based on balances.

In the report of the CPSU Central Committee to the 25th party congress L. I. Brezhnev noted: "We must first ensure a significant improvement of planning. Our country was the first to undertake planned guidance of the economy. Dozens of other states have learned and are learning from this complicated experience of ours. But now we are faced with the task of raising the level of planning work and of bringing it into conformity with the new scale and new shape of our economy and with the new requirements of the times." The essence of the method of balances is that it makes it possible to link the planned volumes of production and capital construction with the physical, labor, natural and financial resources. This method affords the possibility of coordinating related production sectors and of ensuring proportionality and internal consistency of all the elements of the national economic plan in accordance with the requirements of the objective economic laws of advanced socialism. The dynamic and proportional development of social production depends to a considerable degree on the internal consistency of plans. The method of balances is being improved by expanding the system of physical and value balances, balances of production capacities and manpower balances.

The method of balances is one of the effective instruments for examining the proportions in the national economy and for improving them in a purposive and planned manner. In using balances as a planning method planning authorities guarantee scientifically sound determination of optimum rates and proportions and the optimum scale of economic development.



Physical balances occupy an important place in the system of economic balances. They represent a system of indicators reflecting available amounts of various products in a comparison with the national economy's needs for them, and they reflect their reproduction in physical form. Physical balances are widely used to determine the necessary proportions in development and location of the production of physical resources and they are an integral part of the state plan for material and technical supply.

Physical balances are directly related to the balance of the social product and intersector and product-to-product, or intersector, balances. However, whereas the principal and summary indicators of the national economic plan are determined by means of the balance of the social product without differentiation by specific products, production and consumption are stated in detail when single-product physical balances are compiled; they are like a logical extension of the balance of the social product.

Single-product physical balances are used to link the planned production and planned consumption of specific types of products, and they reflect the quantitative relations between them. It is, moreover, important to ensure internal structural consistency with respect to the list of products, the specific types and assortment of the product. The balance sheet for each material reflects amounts available and their distribution for the production of other products. They touch upon a broad range of problems, since they encompass the distribution of the social product in all of its directions and are helpful in discovering internal potential and critical points and in channeling physical resources to fulfill the most important tasks set by economic policy.

Correlation and proportionality in development of individual interrelated sectors, republics and economic regions are ensured by means of the physical balances in multiannual and current plans of the economy's economic and social development.

In the process of the drafting of plans of the national economy's economic and social development the availability of physical resources does not always correspond to the need for them. In such cases it becomes necessary to distribute them in the most effective way, to satisfy the needs of the most important consumers first, and, if there is a shortage of needed resources, to make them up with interchangeable materials.

At a time when the scale of production and capital construction has grown immeasurably, the problems of proportional economic development not only of the country as a whole, but also in each union republic and oblast, have paramount importance. Unified purposive planning is required to solve them. That gives a particular urgency to the task set by the 25th CPSU Congress: "To ensure fuller combination of the sectoral and regional principles of planning. Make broader use of the method of special-purpose programs in planning, and to draft comprehensive programs for the most important scientific-technical, economic and social problems." Fuller combination of regional planning with sectoral planning is an important condition for raising

the efficiency of social production, which is prerequisite to enhancing the role of the union republics in solving the problems of production and social construction.

Regional planning is expected to ensure that location of the productive forces which best promotes the proportional and balanced development of the various production operations making up production complexes, optimum utilization of the natural, labor and other resources of regions, the creation of the necessary physical and other conditions for the life of the population, optimum interregional and intraregional economic and transportation connections, and utilization of other intersector reserves for raising the productivity of social labor.

The regional division of labor, which is inseparably bound up with the sectoral division of labor, since it represents different forms of the unified process of the social division of labor, is the basis of regional planning. This unity also determines the need to combine in all stages of planning its two types--sectoral planning and regional planning. Regional planning figures in this context as one of the aspects of the unified process of comprehensive national economic planning, one which objectively arises from the socialist mode of production. Combination of the two most important forms of socialist planning is in essence a real embodiment of Lenin's principle of democratic socialism in the administration and development of the Soviet multinational state. Practice shows that a proper reckoning of sectoral and local peculiarities makes it possible to find the best solution to the problems of comprehensive development of enterprises and associations located within a republic or oblast regardless of their departmental subordination.

Harmonious combination of the sectoral and regional aspects of planning is an indispensable condition to proportional economic development of the country's regions. This makes it urgently necessary to compile physical balances not only for the country as a whole, but also within the republic. Regional physical balances within the republic guarantee that mutually beneficial cooperative interrepublic and interregional economic relations will be set up and are conducive to more optimum distribution of capital investments in enterprises representing industrial production and the industry of structural fabrications.

In Ukrainian Gosplan current (annual) single-product physical balances are compiled for the principal materials (rolled products of ferrous metals, pipe, petroleum products, fuel, building materials, timber and lumber, and other materials) reflecting specific quantitative relations between production and consumption of the various products. The drafting and use of these balances have revealed certain discrepancies between the need for materials and the amounts available, and when necessary steps are taken to correct the lack of balance between them. At the same time, the interchangeability of materials and the possibility of reducing the materials intensiveness of the product produced on that basis are not sufficiently taken into account when single-product physical balances are compiled and used in the planning process.

For instance, in recent years domestic industry has created and introduced in the economy hundreds of grades of austenitic high-alloy steels, low-alloy structural steels, heat-resistant, martensitic and other types of steels. The chemical and petrochemical industries are also producing types of raw materials and semifinished products which are not encountered in nature and which possess progressive new characteristics and properties, including various types of synthetics (rubber, plastics, fibers, adhesives, polymers, etc.), man-made ceramic and cermet products, bulk (ob'yemnaya) threads, leather from synthetic materials and many other materials. Use of these progressive types of materials in the national economy reduces the materials intensiveness of output by optimizing the proportions of resources used and by applying effective substitutes of scarce materials, ensures higher technical-and-economic parameters of machines and equipment, reduces their production costs, and promotes expansion of the assortment of consumer goods.

This gives particular urgency to the planned drafting and implementation of practical steps to replace raw and processed materials with materials that have higher technical-and-economic parameters and also to improve the quality characteristics of traditional materials. The interchangeability of various types of pipe (metal, asbestos-cement, ferroconcrete, etc.), of mine supports (metal supports, timber supports, ferroconcrete support members, etc.), and in construction--wall, roofing, finishing, insulating and other materials, is well known. Certain assemblies and parts of machines and equipment can be manufactured of ferrous and nonferrous metals, plastics, and so on. We should note that the list of materials which can be included in the various groups of interchangeable products is rather broad at the present time.

In this context it is becoming particularly important to economic practice to draft and use in the republic comprehensive physical balances of interchangeable materials, which make it possible to considerably improve the balance between the need (for production, construction, repair and operation, and other needs) with allocated physical resources. Regional comprehensive balances of interchangeable materials make it possible to make sounder decisions concerning rates and proportions in production of various materials, to outline development of the most economical and progressive types of materials in multiannual plans, and also to make decisions concerning optimum location of the productive forces and distribution of capital investments among raw-materials industries. They help to improve transportation-economic connections, to make wise decisions concerning location of enterprises manufacturing a substitute product, and to orient consumers toward the necessary preparations for its use. The drafting of regional comprehensive balances in the republic for groups of interchangeable physical resources is one of the progressive directions in improving the method of planning by balances and the sectoral structure of production in the present stage.

The comprehensive physical balances also include balances compiled for groups of interchangeable materials (products) converted to a single unit of

measurement with the appropriate equivalents. They are in turn divided into balances of interchangeable materials (products) of a single industry or of two or more industries. By contrast with the single-product balance the comprehensive balance of interchangeable materials represents a more elaborate version of the single-product balance and reflects the needs and availability of interchangeable materials. Interchangeable materials (products) are characterized by performance characteristics they have in common, and they are called upon to meet one and the same specific need of society.

The interchangeability of different materials opens up the possibility of planning their development in a comprehensive way so as to optimize intersector proportions. The interchangeability of materials has particularly great importance in the drafting of multiannual plans of economic development. Long-range comprehensive forecasts of the need for progressive materials and the selection of the most economical and efficient materials are becoming urgent tasks in improving the method of planning by balances.

Problems related to determining the efficiency of producing fully adequate substitutes of traditional materials and their use characteristics are very important to proper solution of the set of problems related to their use in the economy. The principal indicators of the economic efficiency of the production and application of certain materials instead of others are the following: the product's production cost, costs related to its use, capital costs to build capacities, production costs of interchangeable materials, their service life, and so on. Determination of economic efficiency should become the basis in planning the production of interchangeable materials. It should precede the drafting of balances of their production and consumption for the country as a whole and for the republics.

Comprehensive physical balances of interchangeable materials are drafted for groups of materials which have in common the specific nature of their use. For example, the group of roofing materials includes asbestos-cement sheet (shingles) of various types, soft roofing materials (rubberoid, belt paper, izol, pergamyn, etc.), metal roofing (galvanized sheet); mastic roofing (asphalt-rubber, polymer, etc.), tile, and so on. The comprehensive list of materials for floor covering consists, for example, of all types of linoleum, ceramic floor tiles, slag (shlakositaly), marble, mosaic, cement, iron, asphalt, parquet flooring of all types, carpeting, etc.

The group of wall materials is taking on particular interest (reinforced concrete wall panels, stone wall materials, hollow glass blocks, silicate-concrete fabrications, slag blocks, coquina blocks, brick, and many other materials). As experience has shown, the interchangeability of wall materials in a region depends on amounts of the appropriate mineral available. That is why the drafting of comprehensive physical balances of interchangeable wall materials is one of the prerequisites for improving their production structure and for raising the efficiency of their production.



Materials are distributed depending on the products list by various union and republic agencies: that is, USSR Gosplan and Ukrainian Gosplan, USSR Gosnab and Ukrainian Gosnab, and ministries, departments and oblast ispolkoms. Within Ukrainian Gosplan they are in turn distributed by various divisions, and in Ukrainian Gosnab by chief supply and sales components and regional administrations, and so on. This creates certain difficulties in the drafting and actual use of comprehensive physical balances of interchangeable materials. That is why the drafting of comprehensive balances of interchangeable materials in the economy is closely bound up with improvement of the entire system for planning the production and distribution of physical resources and specifically with a more orderly distribution of the list of physical resources among various administrative agencies. In order to further improve planning and to achieve fuller correlation of the volume of work planned with the available physical resources methodological principles need to be adopted governing the drafting and practical introduction of comprehensive intrarepublic physical balances of interchangeable materials.

Certain types of materials can be used in several groups of interchangeable products: for example, within the republic galvanized sheet and roll roofing are used not only as roofing materials, but are committed to other purposes as well. In solving the problem of fuller coverage of the need for physical resources, then, physical balances have to be compiled for the entire complex of interchangeable materials. Preference should then be given to priority needs. It is accordingly very important to determine the need for physical resources by types of use. This is indispensable to the taking of optimum decisions when the comprehensive balance of interchangeable materials is being drafted.

The economic information system would have to be improved in order to strengthen work with balances in the republic. Economic information at present is not standardized, so that the planned and reported supply and sales data differ from one another, and in some cases they cannot be compared at all. Flows and amounts of information are not clearly defined either as to content or as to time; in many cases superfluous information which recipients hardly use at all is communicated at the expense of the data really needed.

The conditions necessary for creating a unified economic information system embracing all its present aspects have come about as the methods of mathematical economics and computer equipment have been introduced into the work with balances. On the one hand the system will contain the minimum amount of data sufficient for competent work with balances and planning statistics, and on the other it will include the indispensable amount of primary data and will guarantee its arrival when needed, the degree of detail, the processing procedure, and routing.

The first phase of the "Material and Technical Supply" subsystem of Ukrainian Gosplan's ASPR [computerized system of planning computations] has now been introduced. Economic information making it possible to make calculations of the need for physical resources on a computer comes in from the



republic's ministries and departments in the form of summary rates of consumption of materials and volumes of production recorded on Form 4m, and in recent years it has also been submitted on punched and magnetic tapes, which makes it possible to computerize more fully the calculations to be performed. This has given rise to the possibility of creating within GlavNIIVTs [Main Scientific Research Institute and Computer Center of Ukrainian Gosplan] a normative data bank which eventually can be expanded into an economic data bank covering the entire scope of planned and reported indicators. This in turn makes it necessary to create a data bank for reported economic data in the computer center of the Ukrainian Central Statistical Administration, and it thereby makes it possible to achieve two-way communication between the computer centers of Ukrainian Gosplan and the Ukrainian Central Statistical Administration.

On the basis of our presentation and analyses that have been made one can conclude that regional single-product physical balances need to be drafted in conjunction with balances of interchangeable materials on a systematic basis in order to achieve complete internal consistency between production plans and available physical resources.

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## NEW STEPS TO IMPROVE ECONOMIC SYSTEM

Moscow KHOZYAYSTVO I PRAVO in Russian No 9, Sep 79 pp 3-11

[Article by V. Laptev, corresponding member of the USSR Academy of Sciences]

[Text] The Economic System and Its Development

The economic system, which embraces the economic, organizational, legal and moral-and-psychological forms and methods that ensure optimum functioning of the socialist economy, plays an important role in raising the efficiency of social production. The economic system exists in any state, but its importance is particularly great in a socialist society, where the means of production have been socialized, and the main body of them belongs to the people as represented by the state.

The economic system of socialist society took shape and underwent development from the very first years of Soviet power. It could not remain unchanged in the various stages of economic development and had to conform to the level of the productive forces attained. The party and state, then, have paid constant attention to improvement of the planned management of the socialist economy. One of the manifestations of this attention was implementation of the set of measures to improve the management and planning of production and economic incentives to promote production, which began in 1965 and came to be called the economic reform. On the whole the reform yielded constructive results, but under present conditions they do not go far enough.

Our country has entered a new stage of its development--the stage of advanced socialism. The socialist economy has become a unified national economic complex embracing all units of social production, exchange and distribution everywhere in the country. In the context of the present-day scientific-technical revolution production has become more consolidated and specialized, there is more industrial cooperation, and large complexes have been built in which science and production are joined--industrial, production and scientific-production associations. Operating on the basis of cost accounting, they make extensive use of economic methods of management. Industrial ministries are also making a gradual conversion to those same principles. The development of the productive forces and augmentation of the

volume of production have made economic relations in the socialist economy more complicated. Along with intrasector and intersector relations, regional relations have also begun to develop intensively, and the need has arisen to combine more thoroughly the sectoral and regional principles in the socialist economy. But this necessitates a higher scientific level of planning and economic management and improved forms and methods for organization of the economy.

The tasks of improving the economic system were set forth in the decisions of the 25th party congress. "Once we have understood that the continuously developing economy has become cramped in the framework of the present economic system, then we must be decisive in improving it."\* The need to improve the economic system also follows from the new USSR Constitution, which holds that the forms and methods of managing the economy are to be constantly improved, and moreover the directions of that improvement are even outlined: in particular, emphasis is put on the need to use cost accounting, profit, production cost, and other economic instruments and incentives in management of the economy.

The decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Improving Planning and Increasing the Impact of the Economic System Toward Higher Production Efficiency and Quality of Performance," dated 12 July 1979, will help to implement the basic positions taken by the 25th party congress and embodied in the USSR Constitution concerning improvement of the forms and methods of management of the economy. It envisages important new steps to improve the economic system in the present stage of economic development.

The decree points to the need to carry out a set of measures to further improve the planned management of the economy, to develop democratic principles in the management of production and to enhance the initiative of work collectives. The task is to raise the level of planning and economic performance, to bring them into conformity with the requirements of the stage of advanced socialism, to achieve a substantial rise in the efficiency of social production, to speed up scientific-technical progress and the rise of labor productivity, and to improve product quality, all of which serve as the basis for ensuring a steady rise of the country's economy and the prosperity of the Soviet people. The system of measures envisaged by the decree are to be carried out in an integrated way during the 11th Five-Year Plan.

#### Improving the Planned Management of the Economy

Measures to improve the planned management of the economy occupy the principal place in the decree. Particularly great attention is paid to planning. Moreover, certain principles of management of the economy are formulated with reference to planning, though in essence they pertain to management of the economy.

\* "Materialy XXV s"yezda KPSS" [Proceedings of the 25th CPSU Congress], Moscow, Politizdat, 1976, p 61.

Selection of the most effective ways of achieving high final results for the national economy, optimum combination of sectoral and regional development and of multiannual and current plans, improvement of intersector and intrasector proportions, and ensuring balanced growth of the economy are acknowledged to be the most important direction for improvement of planning work.

The procedure for drafting plans has been adopted for performing these tasks, and new types of planning documents are being introduced. The enhancement of the role of multiannual plans and long-range programs is characteristic. Planning will be based on a comprehensive 20-year program of scientific-technical development which is to be revised every 5 years. Further, provision is made for working out the main lines of economic and social development 10 years in advance. These are to be drawn up for 5-year periods, and the first 5-year period is broken down by years. Just like the comprehensive program of scientific-technical development, these main lines of development are revised every 5 years and compiled to cover the next new 5-year period.

This procedure is associated with the growing role of 5-year plans, which have been recognized as the principal form for planning the country's economic and social development and the basis for organization of economic activity. The 5-year plan contains planned indicators and norms, which are broken down by years. This is the basis for drafting and approving state plans of economic and social development, in which the assignments of the 5-year plan are stated in the necessary detail, provision is made for introduction of the most recent advances of science and technology, and economic and organizational measures ensuring fulfillment of the 5-year plan are also carried out.

Comprehensive scientific-technical, economic and social programs, and also programs for development of individual regions and regional industrial complexes are being drafted as an exceedingly important component of multiannual plans. The programs to be drafted in the very near future have to do with the conservation of fuel and metal, development of the BAM [Baykal-Amur Trunk Rail Line] zone, reduction of the use of manual labor, and increased production of new consumer goods.

The method of special-purpose programs is conducive to improvement of planning and to guaranteeing that planning will embrace not only economic tasks, but also social tasks, which is a very important direction for improvement of planned guidance of the economy.

New indicators of 5-year and annual plans for which targets are to be assigned to ministries, associations and enterprises are being introduced in the 11th Five-Year Plan. It is significant that unified targets will be adopted for these economic entities in 5-year plans; this corresponds to the fundamental unity of entities in the economic system.

The transition to use of the normative net output indicator as the principal indicator of production is very important. This will make it possible to record with the greatest completeness the true results of the work done by work collectives, which are not accurately reflected in the present production planning indicators because the volume of production of economic entities includes not only the results of their own work, but also the value of raw materials, supplies, components and other articles acquired on the outside. Use of the net output indicator is also envisaged for construction, but it is to be gradually introduced in the course of the 11th Five-Year Plan.

The problem of planning indicators is economic in its content, but it also has important legal significance. The point is that targets (directive indicators) subject to approval of superior authorities predetermine the scope of economic independence of associations and enterprises, while under the USSR Constitution this independence and initiative are to develop in combination with centralized management of the economy. The assignment of directive indicators lies in the competency of higher level authorities, while the adoption of all other indicators (computational indicators) lies in the competence of enterprises and production associations. They have the right to independently set these indicators in annual plans on the basis of assignments or norms of the 5-year plan for the relevant year.

It is a characteristic trait of the new planning system that economic norms or standards are set along with planning targets in 5-year plans. In 5-year plans ministries, associations and enterprises will be assigned a standard governing the wage per ruble of output and rates used for formation of incentive funds, of the production development fund and of the unified fund for development of science and technology (the latter rate is assigned only for ministries). Use of the system of economic norms which remain in effect for a prolonged period makes planning more scientific and stable and lays a solid basis for development of economic independence and initiative of enterprises and associations. The economic norms set forth in legislation are legally binding not only on entities at the lower level, but also on economic and planning agencies at the higher level.

The allocation of planned and financial reserves to economic entities in the upper and middle tiers helps to make planning more stable. These reserves were formed even in the past (the reserve incorporated in the plan, the reserve wage fund, the manpower reserve, the reserve of materials and equipment, undistributed credits, and the reserve for extending financial aid), but some of them have now been increased in size. For instance, the reserve of depreciation deductions for capital repair has been increased from 10 to 15 per cent. In addition, a new reserve is being created--the reserve for capital investments in construction and assembly work and contract work.

All of this will help to base planning on economic and engineering computations rather than on the level already achieved, as was often the case in



the past. A passport is to be prepared for each production association and enterprise; it will contain data on its productive capacities, organizational and technical level, specialization of production and other technical-and-economic indicators, and they will become the objective basis for the compilation of plans. The scientific nature of planning work is also ensured by the compilation of plans on the basis of the comprehensive program of scientific-technical progress and the extensive use of the method of balances in planning various indicators.

Participation of work collectives in the drafting of plans and in monitoring their fulfillment will be conducive to full utilization of potential. This task follows from Article 8 of the USSR Constitution and is indicative of the further spread of socialist democracy. The drafting of plans has been structured in conformity with the principle of democratic centralism. Whereas the drafting of multiannual plans is from top down--5-year plans are compiled on the basis of reference figures which USSR Gosplan breaks down by union ministries, departments and councils of ministers of union republics, the compilation of annual plans begins from below--in production associations and at enterprises. Moreover, extensive use is made of the business contract as a planning instrument.

Enhancement of the role of the business contract as a means of shaping production plans makes it possible to orient associations and enterprises toward attainment of optimum final results in their economic activity. These results are concretely expressed in fulfillment of contractual obligations to deliver products, to do jobs, and to render services. That is why the decree envisages a greater role of the business contract in relation to product deliveries, fulfillment of scientific research and project planning and design projects, and performance of other economic operations.

Use of the business contract as a planning instrument is insured in many ways, ways that in fact were used in economic practice even earlier. Important in this regard is the instruction to more or less complete the transition of production associations and enterprises to direct long-term business relations in 1980. In the context of these relations long-term business contracts are concluded, as a rule for periods of 5 years; they set forth the principal conditions of mutual relations between suppliers and consumers, and they are subject to subsequent annual adjustments. This procedure is in line with making the 5-year plan the principal form for planning economic activity. Provision is also made for further expansion of guaranteed aggregate supply of production associations and enterprises and centralized delivery of products to consumers from depots of supply and sales organizations, which have justified themselves in practice.

Provision has been made as well to develop contractual relations even among organizations in the middle tier. These were set up in recent years through conclusion of contracts between administrations of industrial associations of a number of industries and the corresponding supply and sales organizations. A new step in this direction will be conclusion of 5-year contractual

agreements between main administrations of the USSR Ministry of Trade (wholesale organizations of trade ministries of union republics) and administrations of industrial associations (main administrations of industrial ministries). On the basis of these agreements production associations and enterprises are to conclude annual contracts in which the volume, assortment and delivery conditions of the relevant goods will be stated specifically in the light of consumer demand.

Use of the economic agreement in performance of the functions of head industrial ministries in supplying the relevant products to the economy and the public, which has been envisaged in the decree, is also something new. The head industrial ministries producing durable consumer goods, housewares and household chemical products will now figure at wholesale fairs as general suppliers of all such goods manufactured by associations and enterprises, regardless of departmental subordination. This makes it necessary, of course, to work out a legal mechanism to govern the economic relations of head ministries with other ministries and with the leading enterprises and associations of the same industry. It would seem that in future other industrial ministries would also be brought into relations based on the economic contract or agreement, and particular consideration would be given to development of the principles of cost accounting in their activity.

Compilation for every production association and enterprise of a list of the products to be manufactured and delivered is the objective basis for further improvement of relations based on the business contract; contracts are concluded with customers and supply and sales organizations for delivery of the products they need in conformity with the list. This products list will on the one hand safeguard the interests of enterprises and associations, which will be required to conclude contracts only to deliver products corresponding to their production configuration, while on the other it will afford the consumers the possibility of demanding that contracts be concluded for delivery of the products they need and that such products be included on the list, even if the product's manufacture is unprofitable for the supplier. Of course, the specific conditions of the contract are subject to agreement between the supplier and the customer.

The conclusion of agreements is a method which is also used to ensure combination of the sectoral and regional principles in management of the economy. In order to solve this task the decree provides for discussion and agreement of the number of issues with republic and local authorities. For instance, USSR ministries and departments are required to compile draft plans of sectors in a regional breakdown and to arrange for their joint consideration with councils of ministers of union republics. They are required to communicate to the latter the reference figures and principal targets of drafts and approved plans for organizations under union jurisdiction located within the republic and to see that subordinate production associations, enterprises and organizations submit the relevant planning documents to the kray, oblast and city planning commissions and gosplans of autonomous republics, and in union republics not divided into oblasts--to the gosplans of those

republics. Provision has been made for drafting regional balances of production and distribution of the most important products and programs for solving major regional problems, for the formation and development of the most important regional and industrial complexes, and for compilation of summary capital construction plans for those complexes. Particular attention will be paid to the regions of Siberia and the Far East, for which schemes concerning development and location of the productive forces are to be worked out.

Performance of measures to improve planning requires that legislation on planning be improved. It is important not only to envisage reasonable planning rules, but also to see that they are strictly and unfailingly adhered to. In the past legislation on planning has often been violated, and there were no straightforward judicial guarantees of legality and planning. Development of the legal system for implementing the planning procedure which has been established is an important task in improving the economic system.

#### Development of Cost Accounting and Economic Instruments and Incentives

The decree emphasizes the need for further development of cost accounting in production associations, at enterprises and in construction and installation organizations. The task is set of completing over the next 2 or 3 years the formation of production associations as the principal cost-accounting unit in industry and of carrying out measures to improve the management of capital construction with a view to making the transition to the two-tier and three-tier system of management in the 1979-1981 period. Production construction and installation associations, and in certain cases--trusts, are to be the principal cost-accounting unit in the construction industry.

Cost accounting is developing not only in the basic tier of sectoral management, but also in the middle and upper tiers. In industry these tiers are represented by industrial associations and ministries, the organization of whose operation on cost-accounting principles signifies expansion of the sphere of cost-accounting relations and use of cost accounting in the management of production. Industrial associations and economic systems of ministries represent large-scale production and economic complexes in which the principles of cost accounting can be consistently implemented. There is evidence of this in the experience of industrial associations and a number of union ministries which have been converted to the principles of cost accounting.

The decree points out the need to improve cost-accounting methods of operation in all-union and republic associations and for them to be introduced gradually into the activity of industrial and construction ministries. Attention is called here to the explicit instruction that cost-accounting methods be adopted in the activity of ministries, that is, the correctness of the course adopted toward putting sectoral administration on an economic basis has been confirmed. It is also important that the discussion concerns not only industrial ministries, but construction ministries as well. Thus

uniformity is being achieved on the principles of cost accounting in the activity of ministries in different sectors.

Establishment of the stable rate of profit left to the disposition of ministries will help to strengthen their cost accounting. This standard rate is to be set in the 5-year plan and is to be differentiated from year to year. This portion of profit is to be used to finance capital investments, to repay bank credit, to pay interest on loans, to cover the growth of working capital, and to form the unified fund for development of science and technology and economic incentive funds, as well as for other planned expenditures to develop the sector. It is in accordance with these norms and standards that the sum total of deductions from profit to be paid into the state budget is to be assigned in 5-year plans in a breakdown by years; when necessary appropriations from the budget will also be stated. When the approved profit plan is not fulfilled for some year of the 5-year period, payments into the budget are made in the full amount by virtue of a reduction of the profit left to the disposition of the ministry.

The rates at which deductions from profit are made may be assigned by decision of the ministry to industrial and production associations, as well as to major enterprises. In this case the ministry sets these standards and rates within the limits of the sum total of profit left to its disposition. The general procedure for distribution of funds in the economic system is followed here.

The same procedure is followed for distribution within the ministry's system of the resources of economic incentive funds allocated to the ministry in absolute amounts. This procedure has taken shape in practice and was reinforced in the decree. At the same time, during the 11th Five-Year Plan funds are to be formed at stable rates, which will create a solid financial basis for material incentives of work collectives. It is an innovation that all economic incentive funds will be used by joint decision of the management and trade union committee of production associations and enterprises, while in the past this procedure was operative only with respect to incentive funds, and the production development fund was used on the basis of the unilateral decision of the management.

There will be broader opportunity for using the resources of incentive funds according to the needs of work collectives. This particularly applies to housing construction, which can be financed not only from the fund for social welfare and cultural programs and housing construction, but also with part of the resources of the material incentive fund. Moreover, expenditures for housing construction made from the fund for social welfare and cultural programs and housing construction will be included in the ministry's capital construction plan. This will help to ensure physical resources and amounts of contract work to cover these capital investments, but at the same time it will put a limit on the opportunities of lower-level entities to use their funds independently, since they will be spent up to the capital investment ceilings assigned to the ministry in the 5-year plan.



The development of cost accounting in the activity of ministries is closely bound up with bringing measures related to creation and application of new technology into the sphere of cost-accounting relations. For a long time these measures were implemented apart from the principal production operation and were financed from the state budget. The result was that the enterprises and associations were concerned only to fulfill the production plan, while creation and application of new technology were looked upon as a task of secondary importance. Rates of scientific-technical progress in industry slowed down as a consequence. Conversion of a number of industrial ministries to the cost-accounting system of organizing work to create and apply technology has helped to correct this situation. This experience has been reinforced and elaborated in the decree.

The unified fund for development of science and technology is being formed in ministries to finance measures to create and apply new technology. It is formed by virtue of deductions from the planned profit of production and scientific-production associations and enterprises at a rate fixed in the 5-year plan in percentages of net output. The ministry can transfer a portion of the resources of the unified fund to the disposition of industrial and major production and scientific-production associations. The resources of the fund are used on the basis of job orders and contracts, which state the final results of projects to create and apply new technology, the economic benefit to the national economy from the technology's use, those responsible for performing the project, and deadlines for performance of projects in all stages (from scientific research to industrial application), the physical resources needed, and the amount of financing and material incentives. The fund is the sole source for financing projects related to new technology. The resources of the state budget are also supplied along with the resources of the fund exclusively to finance particularly important scientific research projects that necessitate sizable expenditures.

It is also important that scientific research, project planning and design and technological organizations will gradually be converted to the system of settlement for projects altogether finished and accepted by the customer, and the incentives of personnel of these organizations will depend on the total economic benefit actually obtained in the economy from use of advances of science and technology. This same line is being followed concerning settlement for the planning of construction projects and for completed construction projects. Introduction of settlement between customers and building contractors for enterprises and complexes, phases and facilities capable of independent operation and prepared for the manufacture of products and the rendering of services whose construction has been entirely completed and which has been delivered for operation is to be completed in 1981.

Settlement related to deliveries of products is also being organized in a new way. In the past suppliers have often had difficulties with these settlements because customers have lacked funds at the time when the products were delivered, which put in a serious financial position economic entities which have been conscientiously fulfilling their obligations in accordance



with contracts concluded. Now this problem will be solved in that the bills of suppliers will be paid thanks to bank credit extended to customers for periods up to 60 days at an interest of 5 percent per annum. This procedure will substantially improve the conditions for economic activity of enterprises and associations.

The decree envisages retention of certain incentive regulations that have justified themselves, including the procedure for formation of incentive and bonus funds of personnel for fulfillment of the plan and fulfillment of contractual obligations. The higher incentives for adoption and fulfillment of counterplans have been retained. Improvement of product quality is being encouraged by raising the wholesale prices on these products. A rule is being introduced by which wholesale prices on products will remain unchanged to the end of the 5-year period when products are produced with cheaper materials which do not detract from the product's quality. This saving of valuable materials will give production associations and enterprises additional income.

Measures have also been envisaged to encourage the fulfillment and overfulfillment of profit plans. To that end 50 percent of above-plan profit will remain at the disposition of ministries, associations and enterprises. Should the profit plan be overfulfilled by more than 3 percent, only 25 percent of above-plan profit will be transferred to them, which will encourage adoption of strenuous profit plans.

Measures have been envisaged as well to encourage the manufacture of highly efficient new products whose parameters equal the best domestic and foreign exemplars. Incentives that will be a supplement to the wholesale prices of such products are being established; their size will depend on the annual economic benefit obtained as a result of the manufacture and use of this product, and will range between 0.5 and 1.25 of the rate of profit adopted when prices were set for the given product or a similar product. Moreover, the supplement to the price is increased by a factor of 1.5 if production of the product is based on discoveries or inventions.

Responsibility is an important element in cost accounting; much attention is paid in the decree to increasing responsibility. Responsibility in cost accounting consists of deterioration of the indicators of economic performance and in the unfavorable consequences that therefore arise for the work collective when its performance is poor. These include reduction of the amount of resources made available to economic entities and reduction of incentive funds and bonuses of personnel should plans and contractual obligations not be fulfilled. When a product in the second-quality category is manufactured, a discount is applied to the wholesale price in the amount of 50 percent of the amount of profit obtained from the sale of that product, and after expiration of the period for its withdrawal from production--the discount is in the amount of the total amount of profit. Responsibility in cost accounting is also achieved through the intended collection of a higher interest on credit extended to construction, project planning, scientific research and

design organizations when they do not meet deadlines for delivery of finished construction projects, finished designs, and completed scientific and technical projects.

Traditional legal responsibility also has great importance. For instance, downward adjustment of the plans of production associations and enterprises below the actual level of their fulfillment is prohibited. Disciplinary accountability and material responsibility of officials of administrative agencies who allow planning targets to be lowered have been envisaged in order to combat this widespread phenomenon, and personnel of enterprises and associations are to be deprived of bonuses for the principal results of economic performance either entirely or in part, but no less than 50 percent.

Financial liability for nonperformance of obligations under business contracts is very important. The growing role of business contracts and expansion of the sphere of contractual relations in the socialist economy objectively increase the importance of this type of accountability. For a number of years the widespread amnesty concerning forfeits and penalties and the refusal of economic entities to enforce responsibility have been a defect in enforcement of financial penalties. This violates the principle that responsibility is not revocable and makes it less effective. The decree therefore stresses the obligation to enforce penalties, and it prohibits mutual offsetting of penalties. The actual fulfillment of this requirement would be helped by development of the legal mechanism to create the economic motivation of economic entities to enforce financial penalties.

Equalization of the responsibility of economic entities in different sectors and renunciation of the present diminished accountability of certain organizations are a very important condition to strengthening cost accounting. This applies, first of all, to transportation organizations, whose responsibility is clearly lower than it should be, which has been repeatedly pointed up in the press, including the journal KHOZYAYSTVO I PRAVO. The decree also refers explicitly to the need for enhancing the material responsibility of transportation organizations for nonfulfillment of coordinated freight shipment plans.

Enhancement of the role of the business contract and improvement of responsibility in economic relations pose new problems for state arbitration commissions and legal services in the national economy. Performance of the new measures to improve the economic system requires strengthened legality in economic relations. This will be aided by improvement of legislation regulating the procedure for the guidance and performance of economic activity and defines stable parameters for functioning of the economic system. Further improvement of legal regulation of economic relations will be conducive to raising the efficiency of production and the quality of performance of all entities in the economy.

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